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OCTOBER–NOVEMBER, 1908

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Collaborators — Dr. Edward W. Taylor, Instructor in Neurology, Harvard Medical School, Dr. George A. Waterman, Instructor in Neurology, Harvard Medical School, Dr. E. B. Holt, Dr. J. C. Bell, and Dr. Robert M. Yerkes, of the Psychological Department, Harvard University, Dr. J. W. Courtney and Dr. Isador H. Coriat, of the Neurological Department, Boston City Hospital, and Dr. August Hoch will aid in the department of current literature, which will include neurology, normal and comparative psychology, as well as abnormal psychology and psychiatry.

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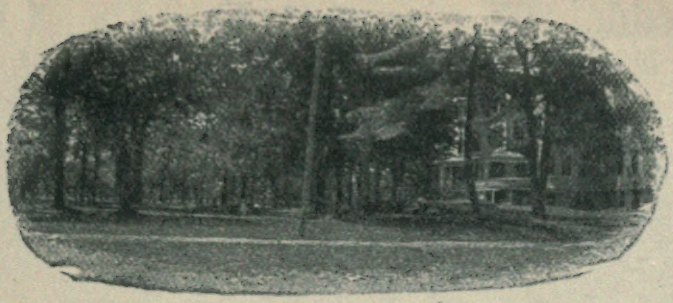

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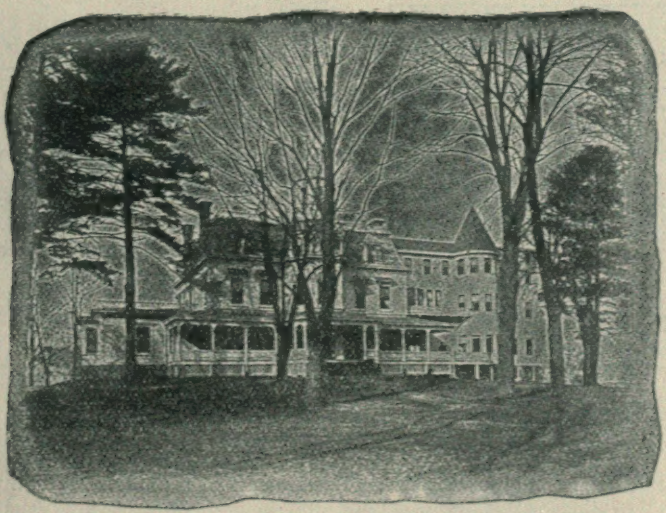

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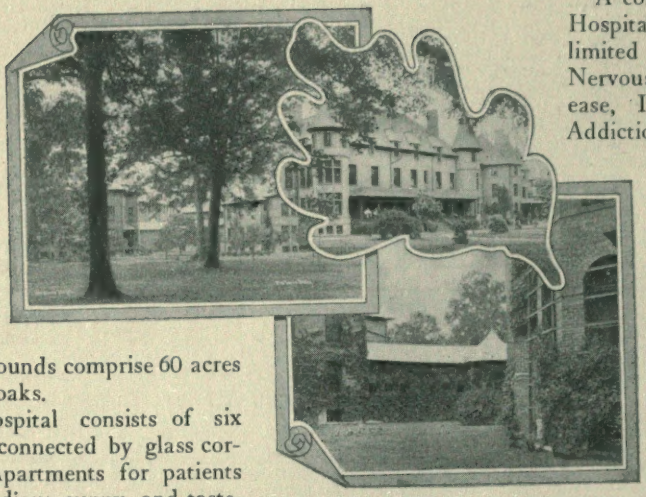

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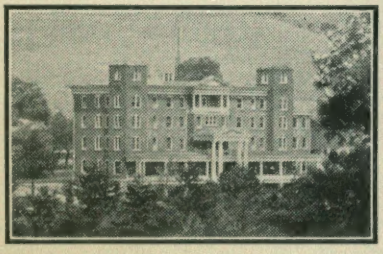

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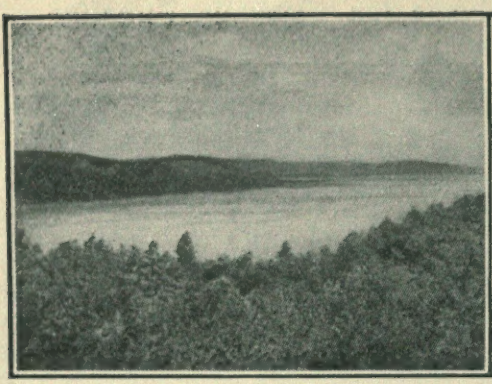

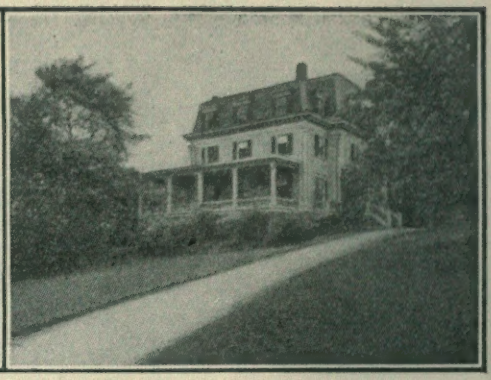

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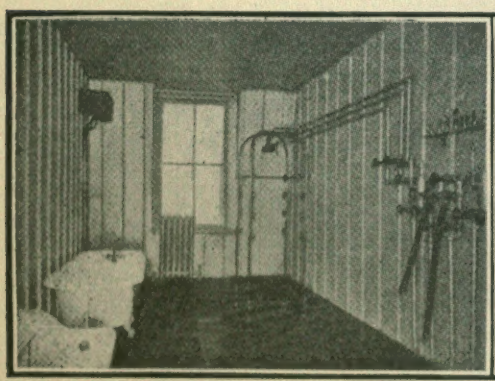

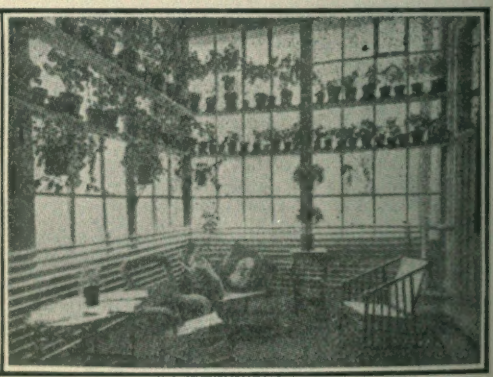

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THE JOURNAL OF
ABNORMAL PSYCHOLOGY

OCTOBER - NOVEMBER, 1908

PSYCHOLOGICAL FACTORS IN DEMENTIA PRAECOX. AN ANALYSIS

BY A. A. BRILL, PH.B., M.D.

Clinical Assistant, Department of Pyschiatry, Columbia University; Former Assistant Physician, Central Islip State Hospital and Psychiatric Clinic, Zurich, Switzerland

I. S., aet. 39, single, bank official, was transferred to the psychiatric clinic of Zurich, November 16, 1907, from the Bohemian asylum of D., where he had been about four months. From the abstract we learn that patient went through an acute attack lasting only a few weeks. He was markedly confused and hallucinatory, but gradually improved, without, however, regaining any insight into his condition, and still entertains numerous false ideas.

On admission he was orderly and well behaved. He seemed to take a lively interest in things, but was inclined to be seclusive and uncommunicative. When drawn into conversation he gave a fair account of his experiences, but now and then he only vaguely intimated things, absolutely refusing to enter into details. His orientation was perfect, no hallucinations of any kind could be elicited, though he showed no insight into his condition. Physically, besides diminished knee jerks, nothing abnormal could be found. He gave a fluent account of his *vita anteacta*, and only now and then was it necessary to question him. He stated that he was born in W. near Zurich. His mother was an invalid for years; she suffered from some "nervous trouble" and died when he was about ten years old. His father, an octogena-

rian, is still living. He knows nothing about the other members of his family, for since his eleventh year he was brought up among strangers. Up to his sixteenth year he was under the guidance of a minister who brought him up very religiously. He attended school up to his seventeenth year, when he began his business career, and since his twentieth year had worked in the bank of B. He saw his father quite frequently up to 1903, when there was a disagreement between them ending in a complete estrangement. When asked about the cause of this quarrel he at first refused to speak of it, but on being urged he said: "The last time my father was in B. I told him that I would like to marry my landlady, a widow, in whose house I lived more than seven years. He strongly objected, and threatened to disown me should I disobey him. He also upbraided me for my mode of living. He is very religious and antisemitic, while I was an agnostic and worked among Jews for eighteen years. I rejoined that I was old enough to follow my own inclinations and so we parted. I have written to him a number of times, but my letters were all returned to me."

His psychosis he describes as follows: " I was always well until the beginning of February, when I suddenly became thoughtful, I did not sleep well, and was very nervous. February 3, 1907, at 7 P. M., I was alone in my room, when I began to feel a strange power influencing me. I felt ecstatic, but I knew that there was something peculiar in me. It was like an electric magnetic power or ether. It suddenly forced me down on the floor on my left knee, my hands were pressed together in an attitude of prayer, and with great force I cried out, ' Lord, have mercy on suffering humanity.' I spoke with a stentorian voice like a preacher. I repeated ' Our Father ' hundreds of times. I felt an influence of the Egyptian gods Isis and Osiris. I was also forced to repeat numerous times, ' Am I Parsifal, the guileless fool ? ' (Parsifal reinster Thor). This state continued for seventy-two hours, during which I had not slept at all. I also imagined that I was very wealthy. The whole thing was like a colossal suggestive influence, and the Jews played some part in it. After four days I got out of bed and took a walk which refreshed me, but I caught a cold which continued for six

weeks. During that time I was under the magic of a peculiar suggestive inspiration in which the Jews played a great part."

Asked whether he heard voices he stated that he heard none during the first crisis, " it was only a magnetic suggestive force." He then continued, " I then wrote a letter to my firm with whom I had been for eighteen years,telling them that my present views did not permit me to work for a Jewish firm. Following an inspiration I went to Lucarno, where I remained until April 5th. I then returned to B., and in order to recover completely I went to a country place near the sea where I remained five weeks. In June I went to see my father, who lived in K., Bohemia, but was not permitted to see him, as his doctor forbade it, saying that he was too sick. I could not believe that the doctor told me the truth. It was certainly remarkable that my old father should estrange himself in such a manner from his only son. At the end of June I was offered a position in Munich, but when I arrived there I found that the head of the firm was a Jew, so I refused it. July 14th, a letter sent to my father was returned marked, " Moved. Address unknown." I again became excited and felt the peculiar suggestive inspirations. Such inspirations were never in me before and probably had their reasons. . . . I again went to K., arriving there July 16th. My father's residence was locked and the neighbors told me that he had moved to D. I decided to follow up my investigations the following morning, but "Man proposes but God disposes." I passed a fearful night, I was continually under influences. I dreamed that I climbed a high mountain or mountains, but all of a sudden I became 'like nailed ' and I could not move any further, I was afraid of falling, and was extremely terrified. At dawn I arose and decided to take a walk in the forest, but no sooner did I leave the hotel when I suddenly heard a voice in my ears. I looked about alarmed but saw no one. The voice asked me peculiar questions and gave still stranger commands. It was something like telepathy. I almost lost my mind. I noticed two policemen and I appealed to them for protection. They took me to the police station and then I only faintly recollect being taken to a hospital in a cab. I was in an un-

conscious, peculiar, feverish state. I heard voices constantly, but they were very indistinct. I saw silhouettes like bluish angelic forms. I saw my father, — he was God, and I was the Son and Superintendent R. was the Holy Ghost. I was in that condition for about one week, and then I recovered my senses. They then sent me to the asylum in D., and on November 16th I was transferred here."

The last part of the patient's statements concurs with the hospital records from D. He finishes by paraphrasing Hamlet, "There are more things in heaven and earth, Doctor, than are dreamt of in your psychiatry."

An attempt was made to have the patient explain some of the individual points, but he became diplomatic and suspicious, saying that he had told everything to the best of his ability and that he really could not remember any more; and, besides, he was sure that no doctor could understand this or explain it to him, that he was perfectly well now, and wished to be discharged so as to go and see his old father. Asked what he thought of the whole affair, he said that he was sure that the whole thing was something divine and supernatural, and also implied that he understands it all, but no amount of urging could induce him to enter deeper into the question.

In the ward, besides his seclusiveness, nothing abnormal could be noticed. He spent most of his time in reading, wrote numerous letters to his father and friends, telling them about his strange experiences and assuring them that he is now completely changed, and perfectly well both physically and mentally. During my visits he was always affable but, except concerning his discharge, evinced no desire to enter into conversation. When an attempt was made to question him he immediately stated "that it was time wasted; that he told me all he knew," and always ended with his preferred quotation, "There are more things, Doctor, etc.," and only on a few occasions was it possible to induce patient to explain some of the details.

This condition remained essentially unchanged for over two months when he was discharged: Diagnosis, Dementia Praecox.

For those who work up their cases on a Kraepelin-Wer-

nicke basis the problem, if not solved, is finished. But both on the continent and in this country the tendency now is to pay more attention to individual psychology. Instigated by the invaluable discoveries of Freud, the Zurich school took up the problem and the results, as every one knows, are most gratifying. In this country A. Meyer approached the problem from a somewhat different standpoint but came to essentially the same conclusions, namely, that attention must be paid to the actual cases and that a mere general description does not suffice. The works of Bleuler (1), Jung (2), and Riklin (3) show how effete and soulless the old routine methods of description appear in comparison to the very interesting psychanalytic methods of Freud. The superiority of Kraepelin's methods over those of his predecessors only serves to emphasize its deficiencies when compared to the psychanalytic methods.

As aforesaid, it was impossible to draw the patient into ordinary conversation for any length of time, so that I started by taking his associations and then analyzed them. The following associations are given:

STIMULOUS WORD	REACTION	TIME	REPRODUCTION
1. coal	burning material	3.4″	+
2. moderate	temperance	4.2″	wine beer
3. song	singing club	3.6″	+
4. to suppose	to doubt	5.2″	religion
5. pain	body	2.6″	physical pain
6. lazy	schoolboy	4.2″	urchin
7. moon	heaven	3.6″	Venus
8. to laugh	society	2.6″	+
9. coffee	a drink	4.4″	coffee table
10. broad	board	2.4″	+

According to the laws of association (4), we have complex indicators where the reaction time is too long, or where there is a faulty or a lack of reproduction. Average reaction time in normal educated individuals is 2.4″ (5).

R. 1 coal-burning material shows a long reaction time. This is frequently seen in the beginning of the experiment. On analysis it recalls many reminiscences of his youth when he lived in the coal regions of B. R. 2 moderate — temperance — wine, beer — refers to his complex of drink. At the age of twenty-five he drank much beer and his father often

spoke to him about moderation. R. 3 song-singing club — recalls the singing club of B, which patient often visited, and it especially recalls a dirge which he once heard, and this recalls his dead sweetheart. R.4 to suppose — to doubt — religion — refers to the complex of religion. He supposed that there is no God, he doubted all religion, but now he is quite convinced that the contrary is true. R.5 pain — body — physical pain — refers to rheumatic pain to which he is subject, but mainly to the pains caused by his father's behavior in ignoring him. R.6 lazy — schoolboy — urchin — refers to the seven-year old son of the widow with whom he boarded. Patient showed numerous resistances and obstructions and finally refused to continue with this association. R.7 moon — heaven — Venus. Asked to explain this strange association he says, " On the 28th of March I awoke during the night and there was a beautiful moon. I had a suggestive dream. I thought that it could be possible to walk on the water and be born like Venus was." He then refused to continue but after many obstructions and inhibitions he said that by water he means the Atlantic, and Venus refers to his sweetheart who died in America. The day before, he saw a picture in the Berliner Illustrierte Zeitung of a newly discovered " sea-people " with webbed fingers and toes who either barked or prayed to the moon. R.9 coffee — drink — coffee table — recalls a friend in Guatemala, a coffee planter, who just married a Swiss girl, and this recalls his " first and only sweetheart " who also married in America. This may refer to his drinking complex. R.10 broad — board — recalls a broad tree trunk, broad breast . . . (sudden obstruction).

11. air . . .	aether	3.4″	body
12. to frighten.	oh terror	4.2″	to collapse
13. plate . .	table	2.0″	+
14. tired . .	walk	3.2″	+
15. intention .	resolution	6.0″	determination of will
16. to fly . .	bird	1.8″	+
17. eye . .	head	4.8″	angel
18. fruit . .	vegetable	3.0″	+
20. to work .	office	2.2″	+
21. to sail . .	ocean	4.8″	+
22. modest .	virtue	7.4″	quality
23. soil . .	earth	3.2″	+
24. to whistle .	schoolboy	3.0″	+
25. aim . .	intention	2.2″	+

R.11 air — ether — body — refers to ether which filled his body during his first attack. R.12 to frighten — oh terror — to collapse — is explained as follows: "When I first heard the voices in K. I became so terrified that I almost collapsed. It was so real, as though some one were near me. I remained 'like nailed,' then I called out 'who talks to me, what is your name?' and the voice replied 'water, drink water.' (See R.7.) It was so terrible, especially after the frightful night, I did not sleep at all during that night. I thought some one was in the room, and I looked under the bed, but I found no one. I also dreamed of climbing mountains. I arose at 5.30 and then a suggestive thought almost like a voice said, 'Jump from the fourth-floor window, and if you believe you will rise unharmed;' then another suggestion said, 'How can you do it, you are only a sinner,' and then I left the hotel. R.14 intention — resolution — determination of will — is explained as follows: "Between 1890 and 1895 I drank considerably, then I formed a resolution not to drink, and I was a total abstainer until 1899 when I was operated upon for hemorrhoids. Since then I drank moderately. I also resolved never to marry. When I was twenty-two I had a sweetheart, a very pretty girl, Marie Bierè. I was very anxious to marry her but my father objected to it, saying that I was only a young fool, etc. In 1887 she went to America, to Pittsburg, Pa., but before going we promised to be true to each other. We corresponded for a year but my father did not allow me to go to America. In 1888 I heard she married a Swiss in Pittsburg. I was very dejected; it was my first real and true love. I had many sweethearts after that but I never loved another woman. I then went to Paris and just cast myself into the whirl so as to forget everything, and I then forgot her. In 1891 I heard she died." (While reciting this, patient became very emotional.) R.17 eye — head — angel — recalls his father's head, "he has a wonderful eye like Bismark — it is God's eye —" (He has only one eye.) (In his delirium his father was God, etc., see above). R.21 sail — ocean — shows a very high reaction time. He thinks of America where he was so very anxious to go but his father objected. R.22 modest — virtue — quality — cannot be explained. He began to speak of

modest women but suddenly stopped. It probably has some erotic sense*. R.23 soil — earth — shows a long reaction time due to persevering of former reaction; probably refers to dream about birth of Venus. R.24 whistle — schoolboy— is another reference to the boy mentioned in association 6; he shows many obstructions and finally asks not to be questioned about it. R.25 aim — intention — is a persevering of the former — he says "Everything has its reasons, dress is only to cover the body—" probably some erotic complex.

26. hat	summer	3.4″	+
27. hand	body	2.6″	God's hand
28. to wake	in bed	2.4″	to get out of bed
29. apple	you have I believe	3.8″	fruit tree vegetables
30. evil	quality	2.6″	+
31. mouth	head	3.6″	boy
32. to drink	thirst	3.4″	an inn
33. bed	to sleep	2.6″	+
34. pretty	pretty girl	4.4″	beer
35. danger	mountain	5.0″	mountain fall
36. to visit	friends	3.0″	+
37. laborer	mason	2.2″	+
38. high	mountain	2.6″	+
39. axe	instrument	2.4″	carpenter
40. to observe	adjective	4.0″	school

R.27 hand — body — God's hand — is not explained but it probably refers to his religious complex. R.28 to wake- — in bed — to get out of bed — refers to expression "wide awake boy," and this again recalls the son of his landlady (obstruction emotivity). R.29 apple — you have I believe — fruit tree vegetables — is a persevering of former reaction, or may have an erotic sense,— he is unable " to explain it." R.30 evil — quality — evokes " bad boy," meaning the landlady's boy, as does the following R.31 mouth — head — boy — which he explains as " human mouth, connected with chewing, eating, etc.,— mother's mouth — I have never done such dirty things." Asked to explain what he means he at first refused to continue, and on being urged he said, " I think of the scenes that I witnessed in Paris." This was

*The word is used in its original Greek sense as anything appertaining to love — eros.

followed by a sudden outburst of excitement. He jumped up and talked very excitedly,— he saw no reason why he should be forced to talk of such dirty things, that he never would think of it if not for the experiments, etc. He was so irritable that the analysis had to be stopped for a week. R.32 drink — thirst — inn — refers to his alcoholic complex. R.34 pretty — pretty girl — beer — refers to his sweetheart whose name was Bierè. R.35 danger — mountain — mountain fall — refers to his dreams of mountain climbing. He also states that he was once in danger of falling off a steep mountain and was only saved by the timely arrival of a mountain guide. R.38 high — mountain — again refers to his mountain climbing and also to the frightful dreams about climbing at the onset of the second crisis. R.40 to observe — adjective — school — refers again to the schoolboy, and as usual patient cannot " explain it."

41.	road . .	I also think of a lawn .	4.0″	forest
42.	round . .	globe	2.2″	+
43.	blood . .	operation	5.2″	knight
44.	to state .	school	4.2″	schoolboy
45.	attention .	da-danger	4.8″	quality
46.	gay . .	society	3.2″	+
48.	market .	stock market . . .	4.2″	money
48i	to forget .	time	5.4″	love
49.	drum .	carnival	3.6″	+
50.	free . . .	air	4.8″	+

R.41 road — I think also of a lawn — forest — refers to the morning of his second attack when he arose early to go into the forest. R.43 blood — operation — knight — patient states that in 1899 he underwent an operation for hemorrhoids during which he lost much blood. It also recalls the blood of the grail referred to in Parsifal. From blood he also goes to the word " blutt," which means naked, and this recalls a dream fragment about round arms and breasts which he had on the night of July 16th. R.44 to state — school — schoolboy — refers again to his landlady's boy. R.45 attention — da — danger — quality — refers to his last attack when the voices addressed him. R.47 market — stock market — money — refers to his trade complex. R.48 to forget — time — love — he explains: " love is in

time forgotten." R.50 free — air — refers to his confinement.

51. religion	the living word	4.2″	Thomas	
52. Jews	Deutsches Volksblatt	3.4″	rich	
53. Isis	Osiris	3.0″	banker	
54. widow	Wehrli	2.6″	+	
55. Parsifal	knight	4.0″	guileless fool	
56. father	love	2.8″	+	

R.51 religion — the living word — Thomas — is explained as follows: "Despite my being brought up religiously, I became a free thinker, and for years I never thought of religion. I scoffed at everything. I was the real 'doubting Thomas.' I studied Nietzsche and especially Max Stirner's works, whose last book 'Der Einzige u. sein Eigentum' (The Ego and his Own) has the motto 'All things are nothing with me.' It is a very dangerous book. But all my ideas and plans have been crushed because I could not conceive the true and holy religion. What happened to me within the last year is a sign sent from above, the 'true living word,' which forces me to seek God. I have still something of the doubting Thomas but it will soon disappear." R.52 Jews — Deutsches Volksblatt — rich. Patient denies bearing any animosity against Jews. He worked eighteen years with Jews and always got along very well with them. "They are nice rich people—" but for some reason which he is unable to explain he was a constant subscriber to the Deutsches Volksblatt, which he claims is an antisemitic journal. R.53 Isis — Osiris — banker — refers to Mr. Osiris, a very wealthy banker in Basel, who died before patient's first attack. Patient says that he now recalls that during his first attack he had the idea that this banker left him 30,000,000 francs, some one told him so. He denies ever having had any relations with Mr. Osiris. Osiris is a contiguous association of Isis. R.54 widow — Wehrli — refers to Mrs. Wehrli, his landlady, with whom he boarded over seven years. He states that he really did not love her, but he liked her and seriously thought of marrying her. In 1903 he spoke about it to his father who objected to it. After Christmas of 1907 he resolved to save money and then marry her, but since the last attack he gave up the

idea. R.55 Parsifal — knight — guileless fool — refers to Parsifal as depicted in Wagner's opera, where he is named the guileless fool. Patient seems to identify himself with the knight, but does not fully explain it. Like Parsifal he had to undergo many vicissitudes before recognizing the true religion. But we shall return later to this. R.56 father — love — is not fully explained. Patient says, "There were times during which I almost hated my father, but now I am very much concerned about him and am very anxious to see him."

One hundred and fifty associations have been taken from the patient, but the given associations are sufficient for the explanation of the principal complexes, and give us a fair understanding of the symptomatic ideogenesis. The main characteristics of the associations are the long reaction times and faulty reproductions. As we have said above, the average reaction time in people of his type is taken as 2.4″. In the associations given about 84 per cent are above the normal reaction time and only about 43 per cent of the reactions are correctly reproduced. These are the so-called complex indicators, and wherever they occur are taken as signs of complex constellations ([6]). The stimulus word either consciously or unconsciously touched the complex and thus evoked the intervention of a presentation of strong feeling tone. This always happens in the normal and hysterics, and Jung has shown that the same holds true in Dementia Praecox.

When we examine the nature of the associations we find that sixteen (3, 7, 9, 15, 21, 22, 23, 25, 29, 31, 34, 35, 47, 53, 54, 50) belong to the erotic complex, seven (4, 11,12, 27, 43, 51, 52) to the complex of religion, and six (6, 24, 28, 30, 31, 40) directly concern the "boy." Unfortunately the last associations were not satisfactorily explained by patient. Judging from the very strong repression which dominated them we are quite certain that they play a great part in patient's psyche. Two suppositions should be kept in mind—

(1) Patient may be the father of the boy.

(2) There may have been some homosexual relation between them. In favor of (1) is the fact that he boarded over seven years with the boy's mother (the boy is about seven

years old). A number of letters exchanged between patient and his landlady also point to that. If he is not his son there probably was some homosexual relation between them as shown by association 31. We are therefore perfectly justified in adding these six associations to the erotic, which gives a total of twenty-two. The religious complexes, too, are intimately connected with the erotic.

Bearing this in mind we can form an idea of the part played by the erotic in patient's psyche. We can say that almost all his psychical components when thoroughly analyzed show some relation to it. This may seem peculiar, but it is not at all unusual. It is found in all psychoneuroses and hysteria, as well as in the normal. According to Freud (7), all so-called day dreams in women are of an erotic nature. In men they may be of an erotic or ambitious nature, but whenever it is possible to analyze the ambitious reveries they, too, may be found to belong to the erotic. All great actions and accomplishments, heroic or commercial, are generally done for the purpose of pleasing some woman and to be preferred to other men. That our patient is no exception to the rule is quite natural.

RECAPITULATION.

We have here a man thirty-nine years old suffering from a psychosis of a year's duration. He cannot account for it, he thinks it came on suddenly. Only a few days before the onset he was thoughtful and nervous. This psychosis is characterized by two distinct crises with a transitional period of about five months. Both crises were of the delirious, confusional, dreamlike type, the first lasting three days, and the second about one week. The period of transition is characterized by marked restlessness, delusions, and hallucinations. The second crisis was not followed by any recovery in the strict sense, as he still entertains false ideas which he does not try to correct, on the contrary, he considers all attempts in that direction futile and unnecessary. The strange manifestations he recognizes as supernatural, divine, and purposeful; they were intentionally sent to compel him to change his mode of living and return to the

religion of his father. He sees in all this the "Hand of God." In other words, we see here a gradual and systematic change of personality which we have every reason to believe is only in the process of transformation, and will probably lead to further systematization and dissociation.

Both the abstract of the history and patient's katamnestic account give a fair gross picture of the psychosis, but do not in any way explain the psychogenesis of the symptoms. The associations, as can be seen, have thrown considerable light on the subject, uncovered many obscure points, and called forth many new ones, but we are still in darkness concerning the causal determinations of the symptoms which we shall now proceed to examine.

That the psychosis did not come on suddenly as would appear, is quite certain. When we thoroughly examine patient's antecedent history, we find that for a number of years his mind was gradually being prepared for it. Since his twenty-second year he sustained a number of psychic shocks of different degrees. The first and most important was his love affair wth Miss B. which ended so unfortunately. To form an opinion of the effect it left on patient it is only necessary to watch his mimic while he recites this episode. As we know, it is very difficult to evoke an adequate affect in such patients, but when this unhappy love affair of sixteen years ago was touched, he immediately lost his wonted taciturnity and indifference, his eyes brightened and his face reddened, he was again the young lover of twenty-two. He spoke fluently about his ardent affection: "I was then innocent and really loved, it was my first and true love, all the other love affairs which I subsequently entertained were dulled by this first one." He became enraged when he recalled his father's attitude in this affair. "Whenever I think of it I am compelled to hate him." It is not difficult to see that this love is still in his mind in a repressed state and markedly influences his actions.

In 1901 he loved another woman, Miss I. W. "It was only sexual love, but I would have married her." She proved false to him and married an army officer. In 1903 he decided to marry his landlady and his father again objected. This time, however, he disregards his father and

resolves to follow his own inclinations. As a result his father severs all connections with him and he neither sees him nor hears from him for three years, yet this did not seem to disturb him. But in spite of all, he does not marry Mrs. W. For reasons unexplained he kept on putting it off until Christmas 1907, when he finally resolves to save his money and marry her. But at the same time there is a reawakening of paternal sentiment. He sent his father letters and his photograph but they were all returned. This irritated him and he decided never to write to him again. As we have shown, he did not keep his resolutions.

Besides the episodes mentioned there were probably other psychical disturbances, but unfortunately the patient is not very communicative. We see also quite plainly that for a number of years he was subjected to a mental conflict. As a youth he was brought up amid religious surroundings. His father was antisemitic and naturally the same ideas were inculcated in the son. When he became older he changed completely. He became an atheist and worked among Jews for eighteen years. He no longer attended church, but studied Nietzsche, Stirner, and others. Now and then his father upbraided him for it but without avail. That he did not entirely rid himself of his early religious training, but only repressed it, is shown by the fact that he kept on subscribing for an antisemitic journal, and during the Dreyfus affair he was the only anti-Dreyfussard in his office. He could not be convinced that Dreyfus was not guilty (symbolic actions). Subconsciously his early training remained in a dormant state. It is not at all easy for one who has been brought up in a certain religious atmosphere to his sixteenth year, to entirely free himself from it. Many people imagine that they are entirely emancipated from their early religious training, and are manifestly so until a grave moment intervenes, and then, provided they are mentally strong, the repressed ideas reassert themselves. This accounts for the many so-called conversions and recantations during grave diseases, or on death beds.

Both patient's crises show some connection with religious events. Christmas 1907 marks the manifest beginning of his restlessness. At this time his feelings towards his father

suddenly change. The suggestive dream referred to under association 7 was on the evening of Good Friday ([8]) and marked the beginning of his second attack. The day following the dream he set out on the journey which finally landed him in the hospital of K.

We see, then, that we have at least two psychic instances of great moment which have long been repressed, and which now suddenly reassert themselves. The question arises how did this come about? A personal predisposition is presupposed. The conflict existing for years caused an "abaisment du niveau mental" (Janet) ([9]) The repressed subconscious complexes gradually freed themselves from the domination of the ego-complex ([10]) and then manifested themselves in the form of automatisms, such as suggestions and inspirations and finally as hallucinations. The obnubilation which followed allowed the appearance of the manifold senseless manifestations which were brought about by the dream mechanisms of Freud ([11]).

If this supposition is true, the individual symptoms ought to be psychically constellated by the complexes. I shall forthwith show that this is really the case.

When we look at our cases in the wards we are often struck by their strange utterances and peculiar behavior. Until recently we were quite satisfied to note that patient is delusional and demented, utters senseless phrases, and goes through a number of peculiar actions, etc. Thanks to Freud we know that all our actions and speech in both normal and abnormal are psychically determined. Jung, following Freud, made thorough analyses of cases of Dementia Praecox showing that all patients' absurd utterings were quite relevant when analyzed, and furthermore all the speech and motor manifestations were distinctly traced to the complex ([12]).

Let us now examine the individual symptoms of our patient. The crises which he went through can be readily compared to the normal dream. Like the expressions in dreams our patient's utterances seem at first sight quite senseless, but have a meaning as soon as analyzed. The first crisis began with an ecstatic feeling, he was forced into an attitude of prayer by an invisible force,— he had to cry out, "Lord have mercy on suffering humanity." This is nothing

but a powerful reassertion of his repressed religious presentation, which by his impaired judgment can only be interpreted as an external power (13). The complex of religion gained the upper hand and he was therefore forced to assume an attitude of prayer and cry out " Lord, have mercy, etc." He also had to repeat hundreds of times " Our Father." As we know his father played a great part in this attack, hence the frequent repetition; the directing thought being absent, the vacuum of association causes the stereotyped repetition (14). It must also be remembered that he identified himself with Christ, and his father with God, hence he repeated the Lord's prayer.

The influence of the Egyptian gods, Isis and Osiris, is explained in association 53. The death of Mr. Osiris naturally interested him as he was a bank official. It is quite likely that either consciously or unconsciously he expressed a wish that some of the money would be left to him. The delirium, like the dream, fulfilled that wish (15), and he therefore imagined that the banker left him thirty million francs. Osiris is a contiguous association of Isis, hence, he felt the influence of Isis and Osiris.

Why was he forced to repeat " Am I Parsifal the guileless fool?" In order to understand this analysis, it is necessary to bear in mind the original German. He kept on repeating " Am I Parsifal reinster Thor." Those acquainted with Freud's methods of analyzing dreams know what a great part is played by " condensation " and " contamination."* On carefully examining patient's doings of the day before his first crisis, it was found that on looking over some old papers and correspondence he found many letters from his old sweetheart. He states that he did not attempt to read them but happened to notice the following sentence: "I am in Pittsburg, Pennsylvania, with a family named Thaw." This was the first letter she sent him from America, in which she told him that she was a servant in the Thaw family. She remained with this family for some time and he corresponded with her regularly for about a year. He stated that after noticing this sentence it " sort of possessed him " and for

*Condensation is a fusion of events, pictures, and elements of speech. Contamination is a fusion of speech only. (Jung.)

hours he was compelled to repeat in his mind " Pittsburg, Pennsylvania, Thaw,"— he speaks English fairly well, and has a very good reading knowledge of it. On being requested to write this phrase he wrote it as follows: Pa. Pittsburg Thaw, remarking at the same time that Pa. is the abbreviation for Pennsylvania. I now venture the following explanation. The memory picture of the word Pennsylvania may be the whole word or its abbreviation Pa., hence in the mind they exist simultaneously as Pa. Pennsylvania. The dream does not find it difficult to condense Pa. Pennsylvania into Pannsylvania and then form it into PANNSYVLania which corresponds to Parsifal. The resemblance between Thaw and Thor is quite obvious. If we now place the two sentences parallel to each other we have the following:

PANNSYVLania	Pittsburg	THAW[16]
PARSIFAL	reinster	THOR.

All letters for the pronunciation of " reinster " can readily be found in the word Pittsburg and the remnant of Pennsylvania. Such condensations and transpositions happen quite frequently in dreams, especially if there be another determining factor. Our patient imperfectly identifies himself with Parsifal as shown in association 55.

" The Jews played some part in it" is all we can get from patient. He insists that he never had any differences with Jews. What part they played in his attack cannot be explained, but it may simply be a forcible reassertion of his father's doctrines.

Thus we see that all the known senseless utterances of the first crisis are fairly well determined. Let us now turn to the second crisis.

He is quite sure that during his first attack he heard no distinct voices. Everything was accomplished by some strange power which he designates as magnetic electric mental suggestion. These suggestions although abating after the first crisis did not entirely cease. He says that he was all the time more or less under suggestions. July 16th he reached K. and passed there a very restless night. He slept but little and was constantly troubled by frightful dreams.

Only since Freud gave out his very profound and excellent work Die Traumdeutung can dreams be scientifically interpreted, and those proficient in his methods possess an invaluable instrument for the exploration of the mind. When the patient was asked to recount the dreams he only remembered about "climbing a high mountain or mountains, that he suddenly became ' like nailed ' and could go no further, and experienced intense fear." (On another occasion he claimed to have dreamed about round arms and breasts. See explanation of R.43.) When an attempt was made to analyze it he absolutely refused his collaboration. Notwithstanding this, we know enough about dreams to enable us to venture an opinion. Since the first crisis he was under great mental stress. The conflict was, "Shall I abide by my decisions and marry Mrs. W., or shall I comply with my father's wishes." As we know he had for years planned to marry in spite of his father's objection, and about Christmas time was fully determined to do it, when a sudden reaction set in and his repressed complexes predominated. The mountain climbing is a symbolic representation of this struggle. He was about to consummate his determination when he became ' like nailed and could go no further.' In the dream the sensation of being inhibited, such as not to be able to move or run when one most desires to do so, means " no." There is a conflict of the will. One begins to do something and the censor says, "No, that shall not be done." (17). He was about to overcome all parental scruples; after years he finally decides to disregard his father and marry, when he is suddenly checked.

This is quite a plausible and innocent interpretation, but like every harmless self evident dream it is only concealing something deeper and more intimate. The fear and anxiety in this dream show us that we deal with intense psychic resistance the content of which belongs to the erotic. Dreams accompanied by fear always belong to the sexual. " Anxiety is a libidinous impulse emanating from the unconscious and inhibited by the pre-conscious." (Freud.) In the waking state we find its counterpart in the psychoneuroses (18). We know also that he dreamed of " round arms and breasts." Round arms and breasts are woman's arms and breasts.

The mountains or mountain in the dream probably meant "mons veneris." The German expression for mons veneris is well known to patient. As shown above he also dreamed of Venus and of her birth. This shows the sexual part of the dream. This is further strengthened by the fact that since his first crisis he was a sexual abstainer. Suppressed sexuality manifests itself in fear ([19]).

The onset of the second crisis was even more intense than the first. It begins with suggestions and soon merges into distinct voices. While dressing, the suggestive thought "almost like a voice said jump from the fourth-floor window and if you believe you will rise unharmed." Then another suggestion said " how can you do it you are only a sinner." Here we see very nicely the marked activity of the subconscious and the part played by the teleological suggestions. Both Bleuler ([20]) and Jung ([21]) give nice examples of this mechanism. It is a quite common contrast automatism, and generally manifests itself in strong dissociations. Here we see it at the height of the disease.

As soon as he left the hotel the suggestion changed into auditory hallucinations. It was impossible to find out the contents of the hallucinations, but during the analysis of association 12 he stated that the voice said " water, drink water." This likely refers to the Atlantic (assoc. 7) or to his complex of drinking (see assoc. 2). We know, however, that the voices so terrified him as to cause him to apply for police protection.

What followed he remembers but dimly. He was in a delirious dreamlike state for about a week. He was in heaven, he heard indistinct voices and saw " many bluish angels." His father was God and he was Christ and his former superintendent R., for whom he has no particular love, was the Holy Ghost. He is now reconciled to his father and his religion. This is a hyperbolic realization of his reveries, corresponding to the wish-fulfilment of the normal dream. Says Freud, " The conscious wish becomes a dream incitor only when it succeeds in arousing a similar unconscious one," and " The wish as represented in the dream must be an infantile one." The wish-realization in our patient's delirium certainly fulfils all these conditions.

It sounds like a fragment of a child's conception of heaven, and also recalls such religious paintings as Hofmann's Ascension or Zuccaro's Christ Surrounded by Angels.

Thus the problems are solved. The repressed complexes now dominate the ego-complex and influence all thoughts and actions. His personality underwent a complete transformation. He is no longer a follower of Stirner and considers the " Ego and his Own " as dangerous. From the avowed philosopher and atheist he changed into the devout believer of the supernatural and hence his preferred quotation, " There are more things in heaven and earth, Doctor, than are dreamt of in your psychiatry."

Résumé

Following the Zurich school an attempt has been made to analyze this case in accordance with Freud's methods. We have shown that just as in the normal dream the elements in patients' crises seemed at first senseless, incomprehensible and disconnected, but were readily explained by psychanalysis. Little attention was paid to diagnosis. It makes but little difference whether we call this case catatonic, paranoid, or hebephrenic, the problems remain the same. What interests us most are the psychogenetic mechanisms of the symptoms. To be sure it is not always possible to penetrate the mind of Dementia Praecox, and indeed I dare say that considerably more might have been elicited had we succeeded in obtaining patient's collaboration, but enough has been unravelled to show at least some of the relations between cause and effect and the part played by the repressed complexes.

In conclusion I wish to thank my former chief, Professor Bleuler, for his kindness in permitting the publication of this case.

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MY LIFE AS A DISSOCIATED PERSONALITY

BY B. C. A.

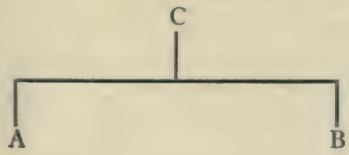
[An account of the various phases of dissociated personality, written by the patient, after recovery and restoration of memory for all the different phases, cannot fail to be of interest. If the writer is endowed with the capacity for accurate introspection and statement, such an account ought to give an insight into the condition of the mind during these dissociated states that is difficult to obtain from objective observation, or, if elicited from a clinical narration of the patient, to accurately transcribe. In that remarkable book, "A Mind that Found Itself," the author, writing after recovery from insanity, has given us an unique insight into the insane mind. Similarly the writer of the following account allows us to see the beginnings of the differentiation of her mind into complexes, the final development of a dissociated or multiple personality, and to understand the moods, points of view, motives, and dominating ideas which characterized each phase. Such an account could only be given by a person who has had the experience, and who has the introspective and literary capacity to describe them.

The writer in publishing, though with some reluctance and at my request, her experiences as a multiple personality, is actuated only, as I can vouch, by a desire to contribute to our knowledge of such conditions. The experiences of her illness — now happily recovered from — have led her to take an active interest in abnormal psychology and to inform herself, so far as is possible by the study of the literature, on many of the problems involved The training thus acquired has plainly added to the accuracy and value of her introspective observations.

A brief preliminary statement will be necessary in order that the account, as told by the patient, may be fully intelligible.

The subject has been under the observation of the editor for about two years. When first seen the case presented the ordinary picture of so-called neurasthenia, characterized by persistent fatigue and the usual somatic symptoms, and by moral doubts and scruples. This phase was later termed and is described in the following account as state or complex A. Later another state, spoken of as complex B, suddenly developed. Complex A had no memory for complex B, but the latter not only had full knowledge of A, but persisted co-consciously when A was present. B was therefore both an alternating and a co-conscious state. Besides differences in memory, A and B manifested distinct and markedly different characteristics, which included moods, tastes, points of view, habits of thought, and controlling ideas. In place, for instance, of the depression, fatigue, and moral doubts and scruples of A, B manifested rather a condition of exaltation, and complete freedom from neurasthenia and its accompanying obsessional ideas. With the appearance of B it was recognized that both states were phases of a dissociated personality, and neither represented the normal complete personality. After prolonged study, this latter normal state was obtained in hypnosis, and, on being waked up, a personality was found which possessed the com-

bined memories of A and B and was free from the pathological stigmata which respectively characterized each. This normal person is spoken of as C. The normal C had, therefore, split into two systems of complexes or personalities, A and B. This relationship may be diagrammatically expressed as follows:



This account will be followed in the next number by one written by the dissociated personality B, describing the point of view of the patient in this state and also her subconscious (co-conscious) life (which she claims to remember) in its various relations and functionings. The analysis, however it be interpreted, cannot fail to be a remarkable contribution to the subconscious.— The Editor.]

My dear Dr. Prince,

You have asked me to give you an account of my illness as it seems to me now that I am myself and well; describing myself in those changes of personality which we have called "A" and "B"

It is always difficult for one to analyze one's self accurately and the conditions have been very complex. I think, however, that I have a clear conception and appreciation of my case. I remember myself perfectly as "A" and as "B." I remember my thoughts, my feelings, and my points of view in each personality and can see where they are the same, and where they depart from my normal self. These points of view will appear as we go on and I feel sure that my memory can be trusted. I recall clearly how in each state I regarded the other state and how in each I regarded myself.

As I have said, I have now, as "C," all the memories of both states (though none of the co-conscious life which, as B, I claimed and believed I had). These memories are clearly differentiated in my mind. It would be impossible to confuse the two as the moods which governed each were so absolutely different, but it is quite another thing to make them distinct on paper. I have, however, been so constantly

under your observation that you can, no doubt, correct any statement I may make which is not borne out by your own knowledge.

I am, perhaps, of a somewhat emotional nature and have never been very strong physically, though nothing of an invalid, and have always been self-controlled and not at all hysterical, as I would use the word. On the contrary, I was, I am sure, considered a very sensible woman by those who know me well, though I am not so sure what they may think of me now. I am, however, very sensitive and responsive to impressions in the sense that I am easily affected by my environment. For instance, at the theatre I lose myself in the play and feel keenly all the emotions portrayed by the actors. These emotions are reflected vividly in my face and manner sometimes to the amusement of those with me and, if the scene is a painful one, it often takes me a long time to recover from the effect of it. The same is true of scenes from actual life.

Before this disintegration took place I had borne great responsibility and great sorrow with what I think I am justified in calling fortitude and I do not think the facts of my previous life would warrant the assumption that I was, naturally, nervously unstable. It does not carry great weight, I know, for one to say of one's self,— I am sensible, I am stable, I am not hysterical,— but I believe the statement can be corroborated by the testimony of those who have known me through my years of trial. The point I wish to make is that my case shows that such an illness as I have had is possible to a constitutionally stable person and is not confined to those of an hysterical tendency.

A year previous to this division of personality a long nervous strain, covering a period of four years, had culminated in the death of one very dear to me. I was at that time in good physical health, though nervously worn, but this death occurred in such a way as to cause me a great shock and within the six days following I lost twenty pounds in weight. For nearly three months I went almost entirely without food, seemingly not eating enough to sustain life, and I did not average more than three or four hours' sleep out of the twenty-four, but I felt neither hungry nor faint, and was

extremely busy and active, being absorbed both by home responsibilities and business affairs. The end of the year, however, found me in very poor health physically and I was nervously and mentally exhausted. I was depressed, sad, felt that I had lost all that made life worth living and, indeed, I wished to die. I was very nervous, unable to eat or sleep, easily fatigued, suffered constantly from headache, to which I had always been subject, and was not able to take much exercise. The physician under whose care I was at this time told me, when I asked him to give my condition a name, that I was suffering from "nervous and cerebral exhaustion."

It was at this time that the shock which caused the division of personality occurred. Before describing it I should mention a few of my most pronounced minor traits which, though of no importance in themselves, will enable, through the change that took place in them, the marked alteration of character after the shock to be recognized. Among these characteristics were a great dislike of riding on electric cars, an almost abnormal nervousness about bugs and mosquitoes — I always disliked going into the woods for this reason — an aversion to exercise in summer, and a fear of canoeing. I had never enjoyed sitting out from under cover or on the ground as the glare of the sun was apt to cause headache and I abhorred all crawling things.* I was reserved with strangers and not given to making my friends quickly; devoted to my family and relatives, fond of my friends, and not in the habit of neglecting them in any way. I felt much responsibility concerning business matters and had given a good deal of time and thought to them. Many more peculiarities might be mentioned. The change which took place in me in these respects will be presently related. But shortly before the complete change took place, to my surprise there were times when I did some of the things above referred to, such as sitting in the woods, etc. I felt a sense of wonder that I should be doing them and a still greater wonder that I found them pleasant. There was also a sense at times of

*I have put this in the past tense because I have changed in some of these characteristics. I enjoy an out-of-door life more than I used to; am fond of the woods and the water in spite of the insects and the fact that I am afraid of a canoe.

impatience and irritation at being troubled with business matters or responsibility of any kind and an inclination to throw aside all care. I wondered at myself for feeling as I did and rather protested to myself at many of my acts but still kept right on doing them. It seems to me that these ideas and feelings formed a complex by which I was more or less governed and that this complex gradually grew in strength and can be identified with that of the personality (B) which first developed.*

The shock I received was of an intensely emotional nature. It brought to me, suddenly, the realization that my position in life was entirely changed, that I was quite alone, and with this there came a feeling of helplessness and desolation beyond my powers of description. I felt, too, angry, frightened, insulted. For a few minutes these ideas flashed through my mind and then — all was changed. All the distressing ideas of the preceding moments left me, and I no longer minded what, a moment before, had caused me so much distress. I became the personality which we have since called " B." I do not feel now that the episode was of a character that would have affected a person of a different nature, or even myself had I been in good health. Psychologically speaking, I suppose I was already in a somewhat disintegrated condition and, therefore, more susceptible. At any rate it did affect me. From the moment of that shock I was, literally, a different person. The episode itself became of little or no importance to me and I looked upon it rather as a lark and really enjoyed it, as I did, in this character, succeeding events. With the change to " B " there was no loss of memory as sometimes occurs under such conditions. It seems very curious to me that the effect of this shock was to change me not to the despondent, despairing mood of "A " which came later, but to the happy mood of " B."

In describing the two personalities I shall sometimes have to refer to them by the letters A and B to avoid the constant repetition of "myself as A — myself as B."

As B, I was, apparently, a perfectly normal person, as will be seen from the description which follows, except that I was

*The gradual growth of the B complex is well described in the account written by B to be published in the next issue of the JOURNAL.

ruled by a fixed idea that upon me, and me alone, depended the salvation, moral and physical, of a person who was almost a perfect stranger to me. I had known this person but a few weeks. This idea became an obsession; all else sank into insignificance beside it; *nothing* else was of any consequence and I went to all lengths to help this person, doing things which, though quite right and proper, indeed imperative, from my point of view as B, were unwise and unnecessary. I believed that I was the only one in the world who would stand by him; that every one else had given him up as hopeless and that his one chance lay in his belief in me.

With the change of personality, which will be clearer as you read, there was also a complete change of physical conditions. Previously neurasthenic, I, as B, was perfectly well and strong and felt equal to anything in the way of physical exercise. The minor traits I have above mentioned were replaced by their opposites. A walk of three or four miles did not tire me at all; I tramped through the woods during the hottest days of summer, with nothing on my head, feeling no discomfort from the heat and no fatigue; I sat on the ground in the woods, hours at a time, not minding in the least the bugs and the mosquitoes; canoeing I was very fond of and felt no fear of the water. I also took long rides on the electric cars and found them perfectly delightful. These are small things but, as you see, it was a radical change and seems as strange to remember as the more important ones. As B, I was light-hearted and happy and life seemed good to me; I wanted to live; my pulses beat fuller, my blood ran warmer through my veins than it ever had done before. I seemed more alive. Nothing is stranger to remember than the vigorous health of B. Never in my life was I so well, before or since. I felt much younger and looked so, for the lines of care, anxiety, sorrow, and fatigue had faded from my face and the change in expression was remarked upon. I neglected my family and friends shamefully, writing short and unsatisfactory letters and leaving them in ignorance of my health and plans; business affairs I washed my hands of entirely. I lost the formality and reserve which was one of my traits. My tastes, ideals, and points of view were completely changed.

I remained in this state for some weeks, enjoying life to the utmost in a way entirely foreign to my natural tastes and inclinations as described above, walking, boating, etc., living wholly out of doors; and also doing many irresponsible things which were of a nature to cause me much distress later.

Some of this might, perhaps, be ascribed to improved health though different from anything I had ever been before.

After a period of a few weeks I received a second shock, which was caused by the discovery of deception in matters which my "obsession" had taken in charge. The revelation came in a flash, a strong emotion swept over me, and the state B, with all its traits, physical characteristics, and points of view disappeared, and I changed to another state which we have since called A. In this state my physical condition was much as it was before the first shock, that is, I was neurasthenic. From a state of vigorous health I instantly changed to one of illness and languor; could hardly sit up, had constant headache, insomnia, loss of appetite, etc. My mental characteristics were different. As before, however, there was no amnesia either for the state when I was B or for my life before the first shock.

Now, though as A I was filled with most disproportionate horror at what had occurred during the weeks of my life as B, I was ruled by the same obsession, but with this difference: what I, as B, had done with a sense of pleasure, I, as A, did with a sense of almost horror at my own actions, feeling that I was compelled to do so by what seemed at the time a sense of duty. I felt that I must carry out certain obligations, and I doubt now, as I afterward expressed myself to you, if I could have resisted had I tried. I would not refuse the demand for help which was made upon me because I, as B, had promised my aid, but in complying I was obliged to do things which seemed to me, as A, shocking and unheard of. I felt that my conduct was open to severe criticism but I had promised and must fulfil though the skies fell. It seems to me now, in the light of our present knowledge of B, that I was in a sort of somnambulistic state governed by what I have learned were co-conscious ideas belonging to B; that the impulses of the B complex were too strong to be resisted;

but in my memory my ideas as B were at this time so curiously intermingled with my ideas as A that it is useless to try to analyze my mind more accurately. In mood, point of view, ideals I was A, but I *did* the things B would have done, though from a different incentive. For a few days I remained A and then, owing, I think, to a lessening of nervous tension, I changed again to B and remained in that state for two or three weeks during which time I was physically well and happy again. At the end of this time, as a result of another realization of the actual situation, A reappeared and was the only personality for some weeks. These changes were due to successive emotional shocks.

When you first saw me I was A at my worst. I had no amnesia for the events of the preceding months when, as B, I had been filled with the joy of living. There was no thought on my part of any "change of personality"— I had never heard of such a thing — but I was like one slowly awakening from a dream. I was equally aghast at what I (B) had done for pleasure, and at what I (A), had done from a sense of duty; one seemed as unbelievable as the other. One of the most shocking things to me, as A, was the fact that I had enjoyed myself. Had I committed the most dreadful crimes I could not have felt greater anguish, regret, and remorse. I was dominated by the fixed ideas and obsessions of B; I felt that I *must* respond to any call for help made by this person even though it was against my inclination and judgment to do so; there seemed no choice for me in the matter — I *had* to; I could see no point of view but my own. To do what seemed my plain duty I was willing to sacrifice myself in every way, but could not see that I (A) was now causing as much anxiety to my family as I had previously done as B; that I was sacrificing them also, or that my idea of duty was entirely mistaken. A, it would seem, was the emotional and idealistic part of my nature magnified a thousand times. My emotions and ideals as A were not different in *kind* from those of my normal self, but were so exaggerated as to be morbid.

As A I was full of metaphysical doubts and fears, full of scruples. I did not attend church because I felt that I could no longer honestly say the Creed and the prayers. The

service had lost all meaning to me and so it seemed hypocritical to take part in it. I felt that I had utterly failed in the performance of every duty, and tortured myself with the remembrance of every act of omission and commission. I accused myself of selfishness, neglect, in fact, of nearly all the crimes in the calendar including, in an indirect way, that of murder. My conversation was always of the most serious character, — religion (I believed in nothing), life after death (of which I found no hope), and I dwelt much upon the fact that no one should be judged by their deeds alone, that no one could tell what hidden motive had prompted any given act. This was because I had (as B) done so many things which (as A) I wholly disapproved of and felt might be misunderstood. I did not understand them myself but knew that my motive had been good. I was frightened, bewildered, shocked, agonized — concentrated anguish and remorse. During these weeks I suffered more than any one ought ever to suffer for anything, and always, over and over in my mind went the same old thoughts,— "*Why* did I do as I did? *How* could I have done it? Why did it seem right? What would my friends think if they knew? I was mad! *I was not myself.*" Finally I decided to end it all — I could not live under such a weight of humiliation and self-reproach. I am sure, Dr. Prince, that you must remember how impossible it was to reason with me as A, for it was at this time and in this state that I was sent to you.

Shortly after I came to you I began to alternate frequently and it is well to emphasize that one marked change in the state of A developed. In this state I now had *complete amnesia* for my whole life as B; for everything I thought and did.* In other respects, however, these states were identical with what they had been. The presence of amnesia

*This came about in the following way: One day while A was in hypnosis she suddenly and spontaneously changed to a different hypnotic state characterized by change of facial expression, manner, speech, etc. It was afterwards recognized that this was the B complex in hypnosis. I had not before seen or heard of the B complex as such. I had only known that the subject from her own account had been in a neurasthenic condition and had been through periods of improvement and relapses. I did not suspect that these phases of improvement and relapses represented phases of personality such

made no difference in the fact of change of personality. As I see it I was just as much an altered personality before the amnesia developed as afterward. As B, I had no amnesia. I claimed not only as an alternating personality to remember *A, but to be always co-conscious with A and to remember my co-conscious thoughts.* As a co-consciousness, of course, I (B) would know A. As stated above I have now no remembrance of that co-conscious life and cannot speak of it from my own knowledge. Why my memory of B should not include that of her (my) co-conscious life, I must leave to you to explain.

The amnesia made life very difficult; indeed, except for the help you gave me I think it would have been impossible and that I should have gone truly mad. How can I describe or give any clear idea of what it is to wake suddenly, as it were, and not to know the day of the week, the time of the day, or why one is in any given position? I would come to myself as A, perhaps on the street, with no idea of where I had been or where I was going; fortunate if I found myself alone, for if I was carrying on a conversation I knew nothing of what it had been; fortunate indeed, in that case, if I did not contradict something I had said for, as B, my attitude toward all things was quite the opposite of that taken by A. Often it happened that I came to myself at some social gathering — a dinner, perhaps — to find I had been taking wine (a thing I, as A, felt bound not to do)* and what was to me most shocking and horrifying, smoking a cigarette; never in my life had I done such a thing and my humiliation was deep and keen.

as was soon discovered to be the case. A few days after the B complex had appeared in hypnosis this phase spontaneously waked and alternated, as it had previously done, with the A complex. But now, as the writer says, there was amnesia on the part of A for B. The explanation for this is undoubtedly to be found in the fact that a new synthesis and more complete dissociation of the B complex had taken place through the experience of hypnosis. Analogous phenomena I have observed in making experimental observations but it would take us too far away to enter into this question here.

* During the first weeks of my existence as B I had pledged myself to drink no wine. The promise was made under such conditions that no reasonable person could have felt bound by it. As B I realized this and felt no obligation to keep it but as A, I could not feel so, though you had assured me over and over again that I was not in honor bound.

I would often wake in the morning, as A, to find a note on my pillow or on the table — usually of a jeering tone — telling me to "cheer up," to " weep no more," etc.; sometimes these notes would be in rhyme and nearly all advised me not to trouble Dr. Prince so much.* These notes were written by B when I " changed " in the night, but, as A, I supposed, when I first found them, that I had written them in my sleep. If my condition had been one of remorse it was now one of despair. After a time, as A, I destroyed all the notes I found without reading them, hoping in this way to discourage B's fondness for writing. As a result I found one morning a sheet of paper pasted directly in the middle of my mirror. It was fastened at each corner with large red seals and bore the inscription " READ THIS " and contained information which it was quite necessary A should have. As B my attitude toward myself as A was something like that of a gay, irresponsible, pleasure-loving girl toward an older, more serious-minded sister. I, as B, had no patience with A's scruples and morbid ideas and actually enjoyed doing things which I knew would shock or annoy myself as A, though occasionally as B, I felt a little sorry for A. It must be remembered that while I, as A, recognized no division of personality and considered B's acts (of which it must be kept in mind I had no memory) as my own, I, as B, did not look upon A as any part of myself. As B, I felt myself to be a distinct personality and insisted upon it to you over and over again. I realized that I was not normal but thought that A was not normal either. I believed that my own views were more correct than A's and were entitled to as much consideration and could never understand why you should prefer to keep A in existence rather than B. I felt that with the restoration of the normal self I could not "come" as an alternating personality but I believed that I should always be co-conscious. As B, I felt very grateful to you for treating me as if I were a " real " person and allowing me to express my own personality. With every one else I had to pretend to be A, and my feeling of gratitude and the fact that you asked for my co-operation — put me on my

*Some notes were of a different kind and you have told me that they were written in nocturnal somnambulism.

honor as it were — was the underlying motive in telling you so much of A's inner life. I, as B, thought A was very silly not to tell you all the things which were troubling her — as was indeed true — and it seemed to me (B) a great joke on A to get up in the night and write you a long letter telling A's most secret thoughts and perhaps inclosing something I, as A, had written but had not really intended to send you. It is true that, as B, I was perfectly willing to tell you things which, as A, I would rather have died than disclose. Would this not seem to show that even when a personality becomes disintegrated the real self, the ego, remains unchanged and, in a way, governs the whole, even if imperfectly? Even as B, feeling sure that the integration of the whole self meant my own extinction, I still, for the most part, gave my help toward that end.

As B, I was very extravagant and spent money in a most lavish way, buying things which, as A, I felt I could not afford, for though A was not, like the famous Mrs. Gilpin, "upon pleasure bent" she did have "a frugal mind." Being, as B, very fond of all sorts of gayety, I constantly made engagements which, as A, who had no heart for social pleasures, I did not care to keep; I constantly encouraged visitors whom, as A, I did not care to receive; a volume could be filled with the troubles of this ill-assorted pair of mes, some of which were tragic and some very funny.

As A, I was all emotion as regards people, but I never felt anger nor resentment. In this and other respects the change from what I was before the first shock was marked. I had become absurdly grateful for every attention shown me though I felt myself separated from all my relatives and friends by the, as I considered it, strange experience I had had. It seemed to me as if my heart were frozen and that an invisible barrier was between me and every one else and that I did not love my family as I had formerly done; it seemed to me that I *felt* nothing; but at the same time I was racked by the agony of the thought. Any tale of sorrow, suffering, or sin stirred me to the depths, but I experienced no sensation of pleasure or happiness. The out door world was unreal to me. I realized that it was beautiful; that the trees were green and stately, that the sky was blue, the wind soft, the

water smiling; but I saw it only with my eyes and to feel beauty one must see it with the soul also. I felt myself no part of it,— I was in the world but not of it.

As B, I felt no emotion except that of pleasure, using the word pleasure as meaning a "good time,"— social gayety, driving, motoring, walking, boating, etc., but my enjoyment of these things was very keen. As B, I was always the gayest of the company, but for people I cared nothing. The little acts of affection which we all perform in daily home life I never thought of. The habit of shaking hands with one's friends, kissing or embracing those nearer and dearer had no meaning to me. Ordinarily, I think, when one shakes hands with a friend one feels the individuality of the person, more or less, and the clasp of hands means something, but as B it meant no more to me than clasping a piece of wood, and the acts of shaking hands, embracing, or kissing were all alike — it made no difference to me which I did — one meant just as much as the other. This lack of feeling applied only to people, for I loved the outside world; the trees, the water, the sky, and the wind seemed to be a very part of myself. The emotions by which, as A, I was torn to shreds, as B, I did not feel at all.

My taste in reading differed greatly in the two states. As B my reading consisted largely of the magazines and short stories, though after becoming interested in the study of psychology I enjoyed reading on the subject as much as A did. Aside from that one subject, however, I preferred the lighter reading and, curiously enough, I liked to read stories which portrayed the very emotions which I never felt. Kipling fascinated me. As A, I read Victor Hugo, Ibsen, Tolstoi, Maeterlinck, a great deal of poetry, the "Rubaiyat" of Omar Khayam until I knew it by heart and anything that touched upon the deeper problems of life.

In matters of dress and social pleasures A and B were diametrically opposed. At the time of the dissociation of character I was wearing mourning, but black was distasteful to me as B, and so far as was possible, I wore white — not even a black belt or buckle would I put on. This fact was far more strange than it seems, and caused much friction, for B's manner of carrying out her ideas was, under the circum-

stances, eccentric, to say the least, and as A it offended my sense of propriety and my pride. As A, I cared almost nothing for social pleasures, dress, etc., though my tastes in such matters did not materially change, but life was much too serious and painful to think of such frivolities; I went to the theatre and places of amusement because you said I must, not because I cared to.

B usually kept A's engagements unless they conflicted too much with her own wishes, and she kept A informed as to what had happened or was to happen, by notes, unless the changes of personality were too rapid. The diary, which has, at your suggestion, been kept, was also of great service in keeping A informed as to the course of events. I will copy a few extracts from this diary as it gives a very good idea of the different moods and points of view.

Under the date July 23, 190—, B writes: "I am here again to-night, B, I am. I may as well tell all I have done, I suppose. For one thing I had a facial massage — there is no need of being a mass of wrinkles. I know A doesn't care how she looks, but I do. The Q's spent the evening here and — if I don't tell, S will, I suppose — I smoked a cigarette. S was *terribly* shocked and angry with me. Now, A, don't go and tell Dr. Prince, you don't have to tell him everything, — you do it, though. I *must* have a little fun." The following day A writes: "I have struggled through another day. B has told what she did. How *can* I bear it? How explain? I am so humiliated, so ashamed. Why should I do things which so mortify my pride? Quite ill all day,— I am, as usual, paying for B's 'fun.' It is not to be borne." August 20, "Terrible day — one of the worst for a long time. I *cannot* live this way, it is not to be expected. I am so confused — I have lost so much time now that I can't seem to catch up. What is the end to be? What will become of me?" August 21, B writes: "Good gracious! how we fly around. A has been ill all day — could not sleep last night. I hope he (Dr. Prince) won't send for us for he will put a quietus on me and as things are now I am gaining on A. Had a gay evening —no discussions of religion or psychology, no dissecting of hearts and souls while I am in the flesh." August 25, "I wonder if A is really dead — for good and

all? It seems like it. The thought rather frightens me someway, as if I had lost my balance-wheel. She wants to die, she really does, for she thinks it to herself all the time, I wish I were myself alone, and neither A nor B; I cannot bear to hear A groan, she cannot bear my glee." August 26, "Such a day! A got away from me for a little while and tried to write a letter to Dr. Prince. It was a funny looking letter for I kept saying to her 'you cannot write, you cannot move your hand' but she had enough will power to write some and directed it. The effort used her up, however, and I came and the letter was not mailed." August 27, A writes: "I am too much bewildered to write. I have succeeded in writing Dr. Prince, if I can only mail it. Oh, but I am tired! Such an awful struggle!"

To show how strangely the physical condition changed as I alternated between A and B: September—, "A was used up and had to stay in bed all the morning but I came about one o'clock and Mrs. X asked me to motor down to Z. Had a gorgeous ride and got home at seven nearly famished, for A had eaten nothing all day — she lives on coffee and somnos — nice combination — steak and French fried, for mine, please. Y was delighted with the cigarette case; you must grin and bear it, A." As B, I had given a cigarette case as a birthday gift to a young relative to whose smoking A seriously objected. November—, "What a day! Now you see it and now you don't — A ill, B well — first one and then the other. I got ready to go to the dentist — then A came; and her head ached and she was too ill to go. Then I came again and practised — etc." I remember this day distinctly. As A, I could not sit up, my head ached so badly. Then I would lose myself, that is, change to B, and feel perfectly well and go on with the work in hand. Changing to A again, with amnesia for the time I had been B, I would feel very ill and have to lie down. I think I changed from one state to the other at least half a dozen times and A's day was one of suffering and B's day one of health and activity. Again B writes: "I am really thinking seriously of going away. I am sure I could get along all right by myself. Dr. Prince says I am a 'psychological impossibility' (absurd), I am a psychological *fact* — more real than A. I could easily go away

— Dr. P. could not help it." As A, I was stricken with terror by an entry like the above for I knew that as B, I could carry out my threat if I chose. November —, "Well, once more I am permitted to write in this old diary.— After we got home C went to pieces. I never saw such a lot!— and then poor old A came, again anguish, wringing of hands, finally tears, then, thank goodness! I came myself. I *cannot* see why Dr. Prince would rather have that *emotional, hysterical* set than to have *me!* It passes comprehension. I know *everything, always*, and they only know a few things for a few minutes."

This gives an idea of A's point of view: August, 190—, "Ill again — headache all day — these memories rack me. O, why, why, *why* did I ever feel and do as I did feel and do! — and it all seemed so right to me, so impossible to do anything else. I *cannot* understand where my commonsense was — it is so incredible. I can't believe sometimes that it is not all a frightful dream — if I could wake and find it so! — the irony, the cruelty of it. Time is an 'arch satirist' indeed! He is having a little joke with me. There is *one* way to end it — how long before I avail myself of it? How much must I suffer?" B feels quite differently: "I could have the loveliest time in the world if A would stay away long enough. There are lots of things to do and I am going to do some of them if I have half a chance. 'A short life and a merry one' shall be my motto."

This diary was kept for about a year and is a most curious document. Both as A and as B I often wrote at length my own theories and explanations of my case. Sometimes when I was writing as A, *co-conscious* B would take control of my hand and I would write, automatically, most decided objections to the ideas I had just expressed.

I hesitate to write of the times when I was influenced by co-conscious B for I have no memory of the co-conscious process. I remember, in the *alternating* state of B, telling you that I could when *co-conscious* control A by *willing*, but of that "willing" as a process I have no knowledge. But, as a fact, on numerous occasions I was prevented from doing something I wished to do, or made, in some mysterious way, to do something I objected to. Afterwards as

B, I claimed, as I remember well, to have co-consciously influenced my other self by willing. I will give one instance of the effect on A of this co-conscious willing. As A, I felt it my duty to go often to the cemetery to which, as B, I objected. In fact, B said she would not go there nor allow A to do so. A writes in the diary as follows: "Another queer thing happened to-day. I have not been to the cemetery for a long time so started to go there. I had gone only a little way when I began to feel that I could not go on. I do not mean that I did not wish to but that I could not easily move my feet in that direction. It was as if some physical force was restraining me, or like walking against a heavy wind. I kept on, however, and finally reached the entrance, but further I found it impossible to go — I was *held* — could not move my feet one inch in that direction. I set my will and said to myself, I *will* go, I *can* go and I will, but I could not do it. I began to feel very tired — exhausted — and turned back. As soon as I turned away I had no trouble in walking but I was very tired."

I do not think I can make the living of such a life at all clear to those who know nothing of such conditions. It would seem impossible for one to get on at all and it was at once more, and less, difficult than could be imagined. The social situation was often most complicated; the nervous strain was intense; the anguish of mind frightful; but, as B, I had no amnesia; as A, I stayed very closely at home, was very intuitive and one grows extraordinarily quick in guessing; it works wonders to look intelligent and say nothing, particularly when no one suspects such a condition, for if one seems forgetful or absent-minded, the last explanation to suggest itself to one's friends would be "change of personality."

It all seems very strange to me now that I have become myself with all these memories. I feel quite differently about everything. The memory of those months of B's existence seems like the memory of a delirium. I feel, in a way, no responsibility for what, as B, I did. I remember those acts as my own; I deplore many of them; I cannot understand why they gave me pleasure for they would give me none now; I am sorry about them just as I would regret

having, in the delirium of fever, done something which I would not in my right mind do, but I do not feel so humiliated, so ashamed of them as I did as A; they are so foreign to anything I would naturally do that they seem to be their own excuse. If, as A, I could ever have realized that B was only an illness, I should have been spared untold mental agony. But, as A, remembering as I did in the first part of my illness all my neglect of my friends and family, my indifference to their anxiety about me, the pain I caused them, and the many unconventional things I had done, I could not excuse or forgive myself; and never, as long as the state A remained did I cease to be terrified and ashamed by the state B. I thought there must be something fundamentally wrong in my nature; that if any one knew the things I, as B, had done, I should be forever disgraced. Everything I did as B, I, as A, disapproved of. The things that gave me pleasure as B, caused me, as A, the bitterest mortification. As A, I condemned myself as B, utterly without mercy, and I suffered intensely.

I have said that I remember both A and B as myself and that is true, but there is a certain difference in my memory of B which I cannot quite describe. I do not *understand* myself as B. It seems like a delirium. A seems somewhat like a delirious state also, perhaps *dazed* would be a better word, but I understand why I felt as A did. A seems exactly like myself in an absurdly morbid, emotional, and unreasonable condition, but B seems foreign, though I was naturally of a gay and light-hearted disposition.

I could have lived my life, after a fashion, in either one of these states had either one been stable enough to maintain itself without changing. Apparently my mental powers underwent no great change, but now that I am myself I can see that in neither state was I capable of forming a well-balanced judgment. As A, I could see only one side of a subject. I could not compare, adjust, and shift my point of view nor look at anything in an impersonal way. Perhaps such a state would explain the fanatics and faddists who hold so tenaciously to their illogical ideas and who go to such extremes in carrying them out.

As B, I should have been in trouble all the time over money

matters and the pleasure of the moment would have determined my course of action regardless of consequences. I should probably have lost all my friends, also, as I felt no affection for any one and was bound by no conventions. As A, I should have been in trouble all the time over everything on account of scruples, doubts, and fears, etc.

A and B are a good illustration of the psychological law, which you yourself have cited, that " States of Pleasure are concomitant with an increase, and states of Pain with a decrease of the vital functions." If I may so express it, A was a state of pain and B was a state of pleasure and their physical and psychical conditions corresponded. As A, my psychical state was one of depression, hopelessness, and despair and my phvsical condition was one of neurasthenia. As B, my psychical state was of exaltation and happiness and the physical condition was one of vigor and ambition. When these conditions and relations are better understood by all physicians there will perhaps be hope even for the poor "neurasthenic."

Should this article be read by any but those who have some knowledge of such conditions I am afraid they will say, " she was crazy," but I was not and never have been for one moment insane, though as A I used to fear I might be. During all this time I lived my life to all appearances like any ordinary person. I directed the daily routine of my household, took entire charge of extensive repairs to my house, and managed my business affairs to a large extent. These things were done perhaps in a somewhat erratic manner, because as B, I neglected them if possible, and this made it doubly hard for me as A, but not one of my family or friends suspected the true state of the case. I believe they all realized that I was in a serious nervous condition, very changeable as to mood, and felt much anxiety about my health but that was all.

I have not spoken of my recovery in the restoration of my normal self as " C." As to how this was accomplished I know nothing except what I have been told which, is very little. Everything was done through hypnosis and I have no memory of what occurred. I only know that I went to you one day in a more than usually disintegrated state; that

I was hypnotized and that I woke up *myself* with a feeling of strength and self poise to which I had long been a stranger. There were no blanks in my memory — I remembered everything. This had been partially accomplished before but the resulting state had not been stable and it would involve too wide a digression to explain it. Every improvement in my condition has been made by the use of hypnotism. I have complete amnesia for my hypnotic states but the results obtained I can speak of with conviction. Over and over again I have gone to you, as A, feeling utterly discouraged and hopeless; worn with insomnia and aching from head to foot from nothing but mental strain; so fatigued that the slightest exertion was an effort. I have, in this condition, been hypnotized and when I woke a change so complete had taken place as to be little short of miraculous. The depressing emotions had disappeared and were replaced by a feeling of courage and ability to endure the trials of my life; the sense of physical and mental fatigue had given place to a sensation of lightness and well-being; the aches and pains were gone. I have then returned to my home comparatively happy, had a good night's rest and borne the strain of my peculiarly trying life for a longer or shorter period, as the case might be, with some degree of fortitude. This was the change which could be wrought by suggestion in hypnosis in the state called A, for I am speaking of the earlier part of my illness before a synthesis of memories had been effected and A was the personality most in evidence. The same statement, however, holds good for the unstable state above referred to when my memory was approximately complete but when I was easily disintegrated by any emotional strain or physical fatigue. Even now, being my normal self, I wake from hypnosis with a marked increase in my feeling of strength, stability, and ambition. As I have stated, I have never been in vigorous health (excepting during the time of my existence as B) and have suffered all my life from so-called nervous headache. For this trouble I have been treated by a number of physicians and I have no doubt that I have taken every known drug for headache, but nothing has ever given me such prolonged relief as therapeutic suggestion in hypnosis, and my health is better now than for a number of years.

I realize the inadequacy of this description, Dr. Prince; it needs a mind trained to such study to do the subject justice and I cannot find the words to make the distinction between the two personalities as sharp as it really was. Moreover, I have touched only upon the lighter side of the case. The many deep experiences, some of them so bitter to remember and some of which have caused me lasting sorrow I cannot bring myself to relate and "the half has not been told." Few, I hope, have ever had or ever will have such an experience as mine, It seems to me, however, that similar conditions must often prevail when they are not recognized, or, if recognized, are but vaguely understood; there is little knowledge of the necessary treatment and the case is considered hopeless. As I have recovered, so may others similarly afflicted, and it is for this reason, and with the hope that a more general knowledge of the phenomena exhibited may be of some value in the treatment of such disorders, that I am willing to have the facts published. If it does serve that end I shall feel it some compensation for the suffering and turmoil of the past few years.

THE UNCONSCIOUS:

A. Dormant Consciousness (Physiological Residua)
B. Physiological Memories

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CHAPTER I

Conscious and Unconscious Memory

AFTER going through any given mental experience, the elementary ideas composing it give place to other ideas and become dormant. In greater or less measure they may afterwards become resuscitated voluntarily or involuntarily. They are then known as memories. But so long as they are out of mind or forgotten, they are latent or dormant. What becomes of them? They may be revived at any given moment, but until they are revived they do not exist as ideas at all. They have a potential existence and may be likened to potential energy. This comparison may be more than an analogy. It may be that the ideas under discussion are stored up in some form of physiological energy which may later, again, become transformed into conscious energy. Our knowledge of such matters, of course, is not sufficiently deep at present to allow us to find in this conception of potential physiological energy anything more than an hypothesis based on analogy. All we know is that mental complexes out of mind are dormant but can be revived at any given moment under proper stimulation. Such ideas may be likened to the energy manifested by a cluster of electric lights: by the turning of a switch the cluster or complex of carbon filaments suddenly glow with energy; again, at the turning of a switch, the glow disappears, but that electrical complex may, at any moment, be brought again into activity as the light of the same cluster of lamps. The conception of an idea continuing to exist as such without being a state of consciousness (or co-consciousness) is unthinkable, and yet we know by experience that conditions are formed that enable an idea which has been once experienced and has subsided to be

revived. In subsiding an idea becomes potential, but we have no conception in psychological terms of what such an idea stands for. We can only think of the continuous existence of dormant ideas in terms of the correlated neuron process and imagine that the neuron process underlying thought becomes so influenced and orgaanized that, when re-excited, the correlated ideas arise. Any explanation of dormant ideas, therefore, that is at all intelligible, must be in terms of neuron processes.

Ideas when thus forgotten or put out of mind are by some writers called subconscious. This is an unfortunate and, as I believe, wrong term, for it connotes qualities which the idea does not possess. Any mental state is a state of active consciousness or else it can have no existence, or at any rate, it cannot be conceived as existing. If active, as we have seen, we may or may not be aware of it. If we are not aware of it, it is co-conscious, or if one prefers, subconscious; if we are aware of it, it is a part of our personal conscious system. In either case it is an active conscious state. It may have a greater or less degree of vividness, but whatever its degree of vividness it is still an active state of consciousness. Now ideas which are forgotten, or out of mind, or are not at the moment recalled, are not ideas nor states of consciousness at all. To speak of such ideas as "subconscious" is to misname them, and leads to confusion of thought and lack of precision in our conceptions. To say that they are " subconscious " implies that there is some element of consciousness attached to them, and this they have not. Yet this is a common use of the term and the inclusion of such ideas within the meaning of " subconscious " is the custom of some writers and permeates popular language. A further strong practical objection to the use of this term to define ideas that are out of mind or forgotten is that it has already been pre-empted by one class of writers as an expression for co-conscious ideas. Janet, the leading exponent of this latter school, has limited the meaning of " subconscious " to ideas that are in actual activity but of which the subject is not aware. His classical researches in hysteria have, therefore, pre-empted the term. I have elsewhere given my reason for insisting that " co-conscious "

is a more precise term to define ideas of this kind than "subconscious." These two terms, however, are, within this meaning, synonyms, but we cannot transfer the term "subconscious" to an entirely different class of mental phenomena without creating confusion of thought. All we can say is that ideas that have become dormant may be represented by physiological residua in neuron processes. The term "the unconscious" (das Unbewusste), as used by German writers, if strictly adhered to, is more exact. It accurately defines the facts, *if restricted to characterize the physiological residua or dispositions which are left by the passing mental processes and are retained in the neuron elements.* Unfortunately, however, this term is commonly used as the synonym for "subconscious" and conversely. This is particularly the case with German writers who employ it to define processes of which we are not aware and which might well be interpreted as co-conscious or, at any rate, to describe phenomena which in every way resemble those which experimental research has shown are best interpreted as due to co-conscious activity. "The unconscious" however, is also equally descriptive of those organized physiological processes in lower neuron systems (spinal cord, sympathetic system, etc.) which are not accompanied by consciousness, though, as we shall see, they possess the function of memory and are capable of intelligent automatic action. They are undoubtedly of the same nature as those more highly organized processes of the brain which manifest themselves as consciousness. It is desirable to have, if possible, terms which will distinguish between these two kinds of processes.

Now there are a great many facts which establish the principle that there are physiological memories as well as psychological memories. Memory, of course, derives its signification from psychological experience and, therefore, as popularly understood, involves the element of consciousness. But if we keep in mind the process for which memory stands we find that the conscious element is not essential and that we may apply the term with equal regard for the facts to physiological processes as well as to psychological processes. As Ribot* has well expressed it: ". . . . Memory, as

*"Diseases of Memory" (English translation), p. 9.

ordinarily known to us and as psychology commonly describes it, far from comprising the whole process of memory, is only its most highly developed and complex phase, and that, taken by itself and studied alone, it is not easily understood; that it is the last term in a long evolutionary series, the product of an extended, but connected, development, having its origin in organic life; in short, that memory is, *per se*, a biological fact — by accident, a psychological fact." In short, as Hering* has pointed out, memory is a general function of organized matter. It is not necessary to enter into this principle in any extended way, for it is well recognized that the essential part of memory is the conservation and reproduction of an experience. In the psychological domain the reproduction is of ideas; in the physiological it is of function of neuron processes organized by repeated experiences into a system unaccompanied by consciousness.

We are accustomed to think of memory as consisting in addition to other qualities, of a conscious recollection or localization of an experience in the past; but, as Ribot points out, this is " only a certain kind of memory which we call perfect." More than this, I would insist, it is only a certain kind of conscious memory. Ribot would make recollection a peculiarity of all conscious memory, but this is plainly an oversight. There may be conscious memories which do not contain any element of recollection; or, in other words, conscious memories may be a reproduction of ideas resembling in every way, in principle, the reproduction of organic neuron processes in that they have no conscious localization in the past. In dissociated personalities, for instance, and in other types of dissociated conditions (functional amnesia, post-hypnotic states, etc.) the names of persons, places, faces, objects, and even complex ideas may flash into the mind, without any element of recollection. The person may have no idea whence they come, but by experiment it is easy to demonstrate that they are automatic memories of past experiences.† In the sensory automatisms known as crystal

*"Ueber das Gedächtniss als allgemeine Function der organisirten Materie," 1876.

†Compare "The Dissociation of a Personality," by Morton Prince, pp. 253,261. For examples see also "Multiple Personality," by Boris Sidis; and "The Lowell Case of Amnesia," by Isador Coriat, THE JOURNAL OF ABNORMAL PSYCHOLOGY, Vol. II, p. 93.

visions, pictures, which accurately reproduce past experiences but of which the subject has no recollection, may vividly arise in the mind. Such pictures are real conscious memories. Dreams, too, may be unrecognized memories in that they reproduce conscious experiences something heard or seen, perhaps, but which has been completely forgotten even when awake.* Again modern methods of psychoanalysis show that heaps of ideas that occur in the course of our every-day thoughts — names, for instance — are excerpts from, or vestiges of previous conscious experiences of which we have no recollection; that is to say, they are memories, reproductions of formerly experienced ideas. In the absence of recollection they seem to belong only to the present. Memories which hold an intermediate place between these automatic memories and those of true recollection are certain memories, like a verse or phrase once learnt by heart which we are able at best only to dimly localize in the past. Indeed the greater part of our vocabulary is but conscious memory without localization in the past.

So we see that recollection is not an essential for even conscious memories. It is only a particular phase of memory just as are automatic conscious memories. Conservation and reproduction are the sole essential qualities of memory and these are functions of all living matter, of the cell as well as of an organized complex of many cells. A cell which once reacts to a given stimulus continues to conserve and reproduce that reaction. Though it is well to recognize the universality of the principle that memory is a biological fact and that it belongs to physiological processes as well as to psychological processes, we need not concern ourselves here with these lower forms.

In the neuron systems memory reaches a high degree of perfection. The neuron organization "faithfully preserves the records of processes often performed"† though exactly

*A relative of mine gave me a very accurate description of a person, whom she had never seen, from a dream in which she saw him. She had completely forgotten the fact that a few days before I had described this person to her. Her description was an exact reproduction of mine, including the identical words.

†See for an interesting statement of physiological memory, "On Memory and Specific Energies of Nervous System," by Ewald Hering. The Open Court Pub. Co.

how these records are made we do not know. In many of the lower animals from which the brain has been removed and which, therefore, we must assume are without consciousness, the spinal cord and its prolongations continue to perform actions originally guided by consciousness. The reptile crawls, the fish swims; indeed the lancet-fish has no brain, all its functions being regulated by the memories of its spinal cord. The frog hops and swims; the hen preens its feathers, walks and flies; the duck and goose swim, the pigeon thrown into the air flies; the dog walks and runs. If a dog, whose spinal cord has been severed so as to cut off all connection with the brain, is extended horizontally in the air the legs may be made to perform the rhythmical movements of walking, trotting, and galloping. (Sherrington; Phillipson).* In many such phenomena there is a reproduction of organized experiences or memory. In man movements acquired volitionally, and perhaps laboriously, are, after constant repetition, reproduced with precision without consciousness. The maintaining of the body in one position, sitting or standing, though requiring a complicated correlation of a large number of muscles, is carried out without conscious volition. It is the same with walking and running. Still more complicated movements are similarly performed in typewriting and playing the piano. The neurons remember or reproduce the process acquired by previous experiences. Precision in games of skill largely depend upon this principle. A tennis player must learn the "stroke" to play the game well. This means that the muscles must be co-ordinated to a delicate adjustment which, once learned, must be unconsciously remembered and used, without consciously adjusting the muscles each time the ball is hit. Indeed some organic memories are so tenacious that a player once having learned the stroke finds great difficulty even by effort of will in unlearning it and making his muscles play a different style of stroke. Likewise

*So far as such movements represent congenital structural and functional arrangements and are pure reflex actions which are unconditioned by education or experience, it is questionable whether they can be regarded as manifestations of memory. Memory, properly speaking, is conditioned by experience. Many spinal reflex actions, however, such as the "scratch" reflex in the dog, may in the beginning have been organized by conscious or unconscious experience.

one who has learned to use his arms in sparring by one method finds difficulty in learning to spar by another method under a different teacher.

Between the most complex unconscious physiological process performed by the nervous system and the simpler cerebral processes accompanied by consciousness there is not as wide a step as might seem when superficially viewed. The physiological process may, as we have seen, manifest itself in acts of quite as an intelligent character as those exhibited by the conscious process, and indeed more so; for the conscious act may be little more than a limited reflex. On the psychical side the consciousness may be so elementary that it contains nothing of awareness, of self, of intelligence, or of volition in the true sense — nothing more, perhaps, than an elementary sensation without even perception. But it may be said that the presence of the most rudimentary state of consciousness makes all the difference and the gulf between the two impassable.

I am not prepared to discuss that question here. Certain it is that, *objectively* viewed, there is nothing to distinguish physiological from psychological memories. If the extraordinary instinctive habits exhibited by insects such as bees and ants, and by still lower forms of animal life, can rightly be interpreted as manifestations of physiological processes, without consciousness, as is quite possible, the distinction between the conscious and the unconscious in respect to memory and adaptability to environment would be reduced to one only of degree. That some of the lowest forms of life are endowed with consciousness, in any sense in which the word has meaning, seems incredible, though they manifest instinctive intelligence of no mean order. The fact probably is that those processes we call physiological and those we call psychical are in their inner nature identical, and the former are quite capable of functioning, incredible as it may seem, in a fashion that we are accustomed to believe can only be the attribute of conscious intelligence. This does not mean, of course, that the physiological intelligence can reach the same degree of perfection as that reached by conscious intelligence, though conversely, conscious intelligence may be of a lower order than physiological intelligence.

The possibility of organizing physiological processes into memories by education and linking them to psychological processes is shown very neatly by the extremely important experiments of Pawlow and his co-workers on the reflex stimulation of saliva in dogs. It should be explained that it was shown that the salivary glands are selective in their reaction to stimuli in that they do not respond at all to some (pebbles, snow), but respond to others with a thin watery fluid containing mere traces of mucin, or a slimy mucin-holding fluid, according as to whether the stimulating substance is one which the dog rejects and therefore must be washed out or diluted (sand, acids, bitter and caustic substances), or is an eatable substance and must as a food bolus be lubricated for the facilitation of its descent. Dryness of the food, too, largely determined the quantity of the saliva. Now the experiments of the St. Petersburg laboratory brought out another fact which is of particular interest for us, and which is thus described by Pawlow. "In the course of our experiments it appeared that all the phenomena of adaptation which we saw in the salivary glands under *physiological* conditions, such, for instance, as the introduction of the stimulating substances into the buccal cavity reappeared in exactly the same manner under the influence of *psychological* conditions — that is to say, when we merely drew the animal's attention to the substances in question. Thus, when we pretended to throw pebbles into the dog's mouth, or to cast in sand, or to pour in something disagreeable, or, finally, when we offered it this or that kind of food, a secretion either immediaetly appeared, or it did not appear, in accordance with the properties of the substance which we had previously seen to regulate the quantity and nature of the juice whne *physiologically* excited to flow. If we pretended to throw in sand, a watery saliva escaped from the mucous glands; if food, a slimy saliva. And if the food were dry — for example, dry bread — a large quantity saliva flowed out, even when it excited no special interest on the part of the dog. When on the other hand, a moist food was presented — for example, flesh — much less saliva appeared than in the previous case, however eagerly the dog may have desired the food. This latter effect is particularly obvious in the case of the parotid gland."* More than

*"The Work of the Digestive Glands" (English Translation), p. 152.

this the psychical excitation may be part of a wider complex: everything that has been in any way psychologically associated with an object which physiologically excites the saliva reflex may also produce it; the plate which customarily contains the food, the furniture upon which it stands; the person who brings it; even the sound of the voice and sound of the steps of this person.* Such experiments give precision to the common observation of all dog lovers who have noticed the drooling of saliva at the mere suggestion to the dog of food.

Indeed it was found that any sensory stimulus could be educated into one that would induce the flow of saliva, if the stimulus had been previously associated with food which normally excited the flow. "Any ocular stimulus, any desired sound, any odor that might be selected, and the stimulation of any part of the skin, either by mechanical means or by the application of heat or cold, have in our hands never failed to stimulate the salivary glands, although they were all of them at one time supposed to be inefficient for such a purpose. This was accomplished by applying these stimuli simultaneously with the action of the salivary glands, this action having been evolved by the giving of certain kinds of food or by forcing certain substances into the dog's mouth.'† It is obvious that reflex excitation thus having been accomplished by the education of the nerve centers to a previously indifferent stimulus the reproduction of the process through this stimulus is in principle an act of physiological memory.‡

These experiments acquire additional interest from the fact that in them we see the fundamental principle of what under other conditions can be recognized as a psychosis or neurosis — an abnormal or perverted association and memoy. The effects produced by this association of stimuli may be regarded as the germ of the habit psychosis. Indeed it is in the domain of pathology that physiological memories may be studied in some of their neatest and most precise forms.

*"Psychische Erregung der Speicheldrüsen." J. P. Pawlow. Ergebnisse der Physiologie, 1904, I abteil. p. 182.

†Huxley Lecture; Br. Med. Jour., Oct. 6, 1906.

‡Pawlow overlooked in these experiments the possible, if not probable, intermediary of the emotions in producing the effects. The principle, however, would not be effected thereby.

In one form they are known as habit or association neuroses. In a study made some years back* I pointed out that the physiological complexes which constituted such neuroses depended upon the organization, through intense stimulation or repetition, of physiological neuron processes into systems and that it was the reproduction of functioning of such systems which *is* the neurosis.

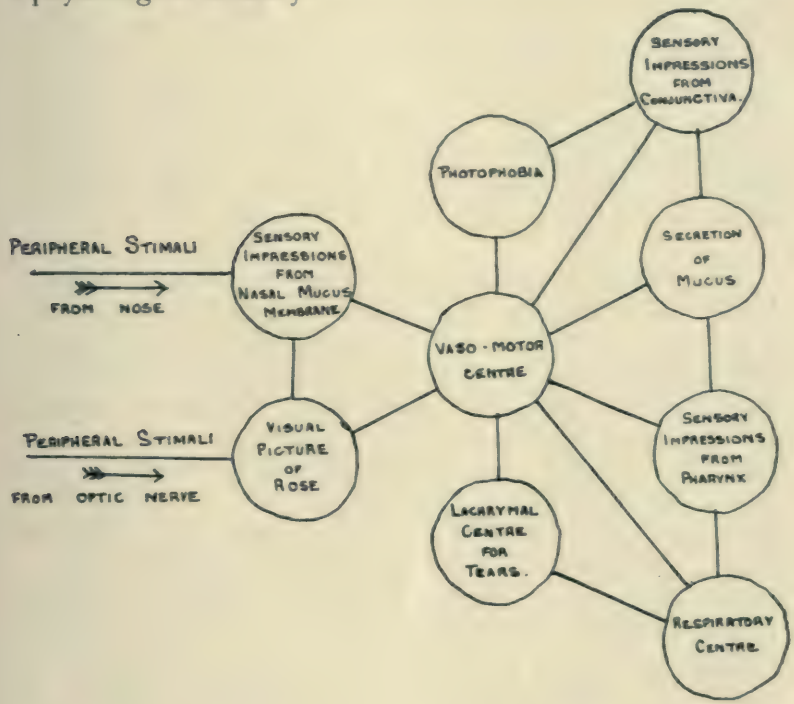
These habit neuroses occur in all sorts of forms and involve all the functions of the body. One of the prettiest of these habit neuroses is a type of hay fever. A case which has been frequently quoted is that reported by Dr. MacKensie, of Baltimore. The patient was subject to hay fever in a most intense form brought on by exposure to roses. To demonstrate its functional character on one occasion, at a time when the patient was free from the disease, Dr. MacKensie produced a bunch of roses from behind a screen. At once the patient was thrown into a violent paroxysm in which lachrymation, congestion of the mucous membranes, secretions, dsypnœa, etc., made up the complex. The patient did not know that the roses were made of *paper*. The interpretation is obvious: the nervous centers had been excited over and over again until the elements had become so strongly organized that the whole reproduced itself like a mechanical mechanism at a given stimulus. The record of the first experience had been retained as a physiological memory which came into activity from moment to moment. A series of similar cases I had an opportunity to observe and study.†

*"Association Neuroses," Jour. Nervous and Mental Diseases, May, 1891. Compare also: "Three cases of Association Neuroses," John E. Donley, M.D., Boston Med. and Surg. Jour., Nov. 3, 1904. "Types of Habit Neuro-Psychoses," E. W. Taylor, M.D., Boston Med. and Surg. Jour., July 21, 1898. "Study of Association Neuroses," John E. Donley, M.D., JOURNAL ABNORMAL PSYCHOLOGY, Vol. 11, p. 45.

†"Hay Fever, due to Nervous Influences, occurring in five members of the same family," by Morton Prince, M.D., Annals of Gynecology and Pediatrics, 1895.

I suspect that a very large proportion, larger than is generally supposed, of hay-fever cases are of this habit character and that for this reason many of the so-called climatic cures effected in the Meccas to which such people flock are largely due to the psycho-therapeutic influence of suggestion.

This principle of the organization of neuron processes into systems or complexes, by which organization the original process is conserved and reproduced from time to time, is so important that I may copy here a diagram which was originally incorporated in the article on association neuroses above referred to. It is designed to show schematically the organization of neuron "centers" in the habit type of hay-fever. The reproduction of such a process is, of course, a physiological memory.



The physiological memories created by the repetition of physiological functions is exemplified in neuroses of all sorts in which organized disease is simulated. Gastric, intestinal, joint, cardiac, ocular, respiratory diseases are thus often mimiced. The recognition of the pathology of such conditions is of the greatest practical importance. If this principle were not true, if physiological memories were not a function of the neuron system, education of every kind,

from walking to language and feats of skill, would be impossible; we would be unable to acquire any art; but if it is true for actions that fulfil useful and beneficent purposes, it must be true for those that fulfil useless and harmful purposes. The laws of nervous matter are general, not special, and it would be inconceivable that the law should cease to hold equally good for those neuron processes which fulfil undesirable ends. If neuron memories that adapt an individual to his environment are capable of being established under certain conditions, under other conditions memories that misadapt him to his environment are equally capable of being developed. Thus it is that habit or association neuroses arise. In this principle of physiological memories we can correlate habit neuroses, however undesirable and disagreeable, with those other habits which, as accomplishments, we industriously cultivate.

An extension of this principle of organic memory, inherent in nervous matter, to brain processes becomes compulsory if we would be consistent. We are compelled to believe that the principle holds good for neuron processes accompanied by thought as well as for those which are purely organic. We find that our conscious memories correspond in their behavior in every way with physiological memories and follow the same laws. Consequently, if the correlation of the mind with the brain is to be intelligible, we must believe that in all ideation, in every process of thought, the record of the conscious stream may be conserved in the correlated neuron process. The neurons retain residua of the original process, become to a greater or less degree organized and capable of reproducing the original process. When we reproduce the original ideas in the form of memories there is also a reproduction of the physiological neuron process, and *vice versa*,— but the essential point is that the record of our ideas — ex hypothesi — is retained in the neurons, that though our ideas pass out of mind, are forgotten for the moment and become dormant, their physiological records still remain, as sort of vestigia, much as the records of our thoughts are recorded on the moving wax cylinder of the phonograph. When the cylinder revolves again the

thoughts once more are reproduced as auditory language. A better analogy would be the recording and reproducing of our thoughts by the dynamic magnetization of the iron wire in the more recently invented instrument. So when the ideas of any given conscious experience become dormant the physiological records, or dynamic rearrangements still remain organized as physiological unconscious complexes, and with the excitation of these physiological complexes the corresponding psychological memories awake. It is only as such physiological complexes that ideas out of mind can be regarded as still existing. As Ribot has well expressed it, " . . . Feelings, ideas, and intellectual actions in general, are not fixed, and only become a portion of memory when there are corresponding residua in the nervous system — residua consisting, as we have previously demonstrated, of nervous elements, and dynamic associations among those elements. On this condition, and this only, can there be conservation and reproduction."* *Dormant ideas are thus equivalent to conserved unconscious physiological complexes.* We may use either term to express the fact.

Dormant ideas, however, are not equivalent to physiological *memory* which means the functioning (reproduction) of physiological complexes that do not manifest consciousness. Memory, strictly speaking, requires more than conservation; memory is reproduction of that which is conserved. It is, therefore, an active functioning process.

We thus have conscious complexes of ideas and their correlated dormant *unconscious physiological complexes* of organized physical residua. When these latter function they manifest themselves as conscious memories.

The Unconscious then embraces two classes of facts which may be thus tabulated:

UNCONSCIOUS

A. Cerebral neuron organization and residua (correlated with consciousness and when functioning manifested as conscious memories.)

B. Spinal and ganglionic organization and residua (when functioning manifested as physiological memories).

*"Diseases of Memory," by Th. Ribot pp. 154, 155. Translation by William Huntington Smith. D. Appleton & Co.

Undoubtedly the inner nature of each class is the same, the cerebral material having a more highly evolved and complex arrangement but the same in kind. Each is capable of reactions which have all the characteristics of intelligence (memory, volition, instinct, etc.), though only one is accompanied by (manifests) consciousness. *

I dislike to coin new terms, but a precise terminology helps to precision of thought. I suggest, therefore, that the term *Dormant Consciousness* will accurately define the mental complexes which have passed out of mind and the unconscious physiological complexes into which they have become transformed, and that, by the use of this term, we shall know exactly what sort of mental states and physiological complexes we are referring to, which will not be the case if the term " subconscious " is used.*

Freud quite correctly defines the status of ideas that are simply out of mind or forgotten as " the unconscious " (*das Unbewusste*) and to this attributes a considerable role in the production of amnesia and other normal and abnormal phenomena. He does not attempt, however, so far as I have been able to learn, to define the precise character of that which he calls " the unconscious."

As a concept in a scheme of metaphysics, " unconscious ideas," i. e., ideas of which we are not conscious, have long

*I forbear to enter into the question of the nature of consciousness and matter. In the last analysis, matter and mind undoubtedly are to be identified as different manifestations of one and the same great principle — the doctrine of monism — call it spiritual or material as you like, according to your fondness for names. For our purpose it is not necessary to touch this philosophic problem, as we are dealing only with specific biological experiences.

*It may be opposed that the same objection holds to "dormant consciousness" as to "subconsciousness," in that it is contradictory; for an idea can, not be dormant and also conscious. While this is, strictly speaking, true-yet it is desirable that we should stick to psychological terms if we can do so without confusion of thought; and inasmuch as we are accustomed to speak of our consciousness as being, at times of slumber, asleep or dormant, there is little reason for misunderstanding. "Physiological complex" is a more exact and analytical term, but it is not wholly desirable to translate the term into one of physiology. The chief objection to "subconsciousness" and "the unconscious" is avoided by the term selected, namely, that both are used in many senses by different writers, and the former has been pre-empted by some to designate co-conscious ideas.

been recognized. Leibnitz was the first to maintain, on theoretical grounds and by *à priori* reasoning, the existence of ideas of which we are not aware, as did likewise Kant, influenced by Leibnitz, and later Schilling, and Herbart; while Hartmann evolved the unconscious into a biological and metaphysical system.*

In the language of modern psychology, such ideas, as conceived at least by Leibnitz, Kant, and Herbart, would be called subconscious or co-conscious ideas. Hartman included all physiological processes of the nervous system in the Unconscious and ascribed to them special attributes (will, purpose, etc.). The Unconscious accordingly has connotations from which it is not easy to rid ourselves in dealing with it. But aside from its conceptions in philosophy, and restricting the term to its modern psycho-physiological field, it is not clear whether, as employed by the Freud and Zurich schools, it is intended to include only the organized physiological dispositions of Class A, or *co-conscious* ideas, or both. So far as the Unconscious is here meant *only* the physiological dispositions or residua, above defined, no exception can be taken to the term. Used for this class it is descriptive (for dormant ideas are unconscious) though not

*For an interesting account of the history of the theory of unconscious ideas in philosophy, see Hartmann's "Philosophy of the Unconscious" where the following quotations may be found: "To have ideas and yet not to be conscious of them — there seems to be a contradiction in that; for how can we know that we have them if we are not conscious of them? Nevertheless we may become aware indirectly that we have an idea, although we be not directly cognizant of the same." (Kant, Anthropology, sec. 5). And again: "Innumerable are the sensations and perceptions whereof we are not conscious, although we must undoubtedly conclude that we have them, obscure ideas as they may be called (to be found in animals as well as in man). The clear ideas, indeed, are but an infinitely small fraction of these same exposed to consciousness. That only a few spots on the great chart of our minds are illuminated may well fill us with amazement in contemplating this nature of ours. (Ibid.)

"Now conscious ideas" are such "as are in consciousness without our being aware of them" (Herbart).

It is interesting to note how Kant's statement might well be substituted for that of Myers' of his "Subliminal." It is difficult to appreciate the antagonism of certain modern theoretical psychologists to the theory of subconscious (co-conscious) ideas in view of the history of such ideas in philosophy. They seem to have forgotten their philosophy and not to have kept pace with experimental psychology.

analytical of the mode of conservation (as physiological residua).

Unfortunately, however, as a matter of fact, as with the philosophers, its use by this school includes that other distinct class of psychological phenomena, which we have every reason to believe to be not unconscious but co-conscious. This use of the term *unconscious* in philosophy and abnormal psychology to include these two classes of facts has led translators, it would seem, to render Freud's " das Unbewusste ' by the English " subconscious " (French " subconscient "). This is only justifiable so long as " the subconscious " and " the unconscious " are each intended to cover both classes; but if " subconscious " is limited, as I have argued it should be, like the French equivalent (Janet), to co-conscious ideas then the rendering of " das Unbewusste " by this English term is indefensible. If, again, the German term is not restricted to physiological residua, great confusion arises and this very confusion, as I have said, underlies the psychopathology of the Freud and Zurich school. The two classes of facts should be very precisely differentiated in our minds, for in a given psychological phenomenon such as the forgetting of a name or an hysterical anesthesia, there is often a grave question whether we have to do simply with a physiological complex without consciousness, or with a co-conscious complex. As to the physiological complexes of the spinal cord and ganglia unaccompanied by consciousness, it is evident that they belong to the unconscious of which they constitute a subdivision. These constitute a large part of the manifestations of normal animal life and play an important part in the abnormal life of man.

CHAPTER II

The Formation of Complexes

BEFORE proceeding to the elucidation of the more specific functions of the unconscious, it will be well to state in somewhat orderly fashion a few general principles governing the formation of complexes which, as we shall see, play an important part in normal and abnormal life. Although this statement will be little

more than descriptive of what is common experience, it is well at the outset to classify and arrange the phenomena with which in their many phases we shall deal.

Ideas, then, after being experienced in consciousness, become dormant (conserved as physiological dispositions or residua) and may or may not afterwards be reawakened in consciousness as memories. Many such ideas, under conditions with some of which we are all familiar, tend to form part of our voluntary or involuntary memories and many do not. But when such is the case, the memories do not ordinarily include the whole of a given mental experience, but only excerpts or abstracts of it. Hence one reason for the fallibilit of human memory and consequent testimony.

Now under special conditions, the ideas making up an experience at any given moment tend to become organized into a system or complex, so that when we later think of the experience or recall any of the ideas belonging to it, the complex as a whole is revived. This is one of the principles underlying the mechanism of memory. Thus it happens that memory may, to a large extent, be made up of complexes. These complexes may be very loosely organized in that the elementary ideas are weakly bound together, in which case, when we try to recall the original experience, only a part of it is recalled. Or a complex may be very strongly organized, owing to the conditions under which it is formed, and then a large part of the experience can be recalled. In this case any idea associated with some element in the complex may, by the law of association, revive the whole original complex. If, for instance, we have gone through a railroad accident involving exciting incidents, loss of life, etc., the words "railroad," "accident," "death," or a sudden crashing sound, or the sight of blood, or even riding in a railroad train may recall the experience from beginning to end, or at least the prominent features in it, i.e., so much as was organized. The memory of the greater part of this experience is well organized, while the earlier events and those succeeding the accident may have passed out of all possibility of voluntary recall.

To take an instance commonplace enough but which happens to have just come within my observation: a fire-

man was injured severely by being thrown from a hose wagon rushing to a fire, against a telegraph pole with which the wagon collided. He narrowly escaped death. Although three years have passed he still cannot ride on a wagon to a fire without the memory of the whole accident, rising in his mind. When he does so he again lives through the accident, including the thoughts just previous to the actual collision when, realizing his situation, he was overcome with terror, and he again manifests all the organic physical expressions of fear, viz: perspiration, tremor, and muscular weakness. Here is a well-organized and fairly limited complex.

An historical example of this method of formation is narrated in Tallentyre's delightful life of Voltaire. Towards the end of Voltaire's famous residence at the court of Frederick the Great as the latter's guest, one of those pestiferous friends who cannot help repeating disagreeable personal gossip for our benefit, swore to Voltaire to having heard Frederick remark, "I shall want him (Voltaire) at the most another year; one squeezes the orange and throws away the rind." From that moment a complex of emotional ideas was formed in Voltaire's mind, that, do what he would, he could not get rid of. He wrote about it to his friends, thought about it, dreamed about it; he tried to forget it, but to no purpose; it would not down; the rind kept constantly rising. It brought with it every memory of Frederick's character and actions that fitted the remark. Voltaire, like many men of genius, was a neurasthenic, and his ideas with strong emotional tones tended to become strongly organized and acquire great force. "The orange rind haunts my dreams," he wrote; "I try not to believe it. . . . we go to sup with the king and are gay enough sometimes;— the man who fell from the top of a steeple and found the fall through the air soft, and said, 'Good, provided it lasts,' is not a little as I am."

In psychasthenics and hysterics the sudden suggestion or awakening by whatsoever means of an idea to which a feeling of horror, antipathy, fear or any emotion is attached, readily gives occasion for the formation of such complexes. Mrs.——, while in a neurasthenic condition, was carrying in her arms her sister's child (of whom she was very fond) and

suddenly thought what a horrible thing it would be if she should accidentally drop the child and kill it. From that moment this idea took possession of her mind and recurred invariably whenever in the presence of the child. But more than this, the complex grew, the idea of killing became the dominant thought, and developed into an impulsion to kill the child in spite of her horror of the deed. The complex became enlarged into an elaborate obsession. When this was aroused, like Lady Macbeth, she had visual hallucinations of a knife, a stone, or whatever at the moment was the most handy method of doing the deed. In other respects she was an intelligent, normal, and sane woman, and had a perfectly correct realization of the pathological character of the complex, which she resisted.*

Another psychasthenic, Mrs. B.——, a perfectly moral woman and faithful wife, developed three complexes: one, of a sexual character, was to form immoral and, to her, repellant relations with men whether strangers or not; one to steal money; and the third to kill. The first developed out of a remark made to her by a visitor who casually mentioned that she had observed a number of young women congregating in the neighborbood of a place where many men were employed. The details we need not go into. The second from a thought which flashed into her mind at a moment when she came across some money concealed in a closet; the third apparently from feelings of irritation when annoyed. All three devleoped into fairly large and insistent complexes which became impulsions. The second impelled her to snatch money from the hand of any passenger in a street car whom she chanced to observe. Each of these complexes remained as a compact organized system of thought which recurred and harassed her from time to time and gave rise to many distressing experiences.

Another subject in similar fashion formed a complex which embraced both the impulsion to forge and the fear of doing so.

A patient of Dr. J. J. Putnam's, whom he kindly allowed me to see, developed a complex which had for its

*Boston Medical and Surgical Journal, January 21, 1897. "A Case of Imperative Idea or Homicidal Impulse in a Neurasthenic without Hereditary Taint."

salient idea that of falling and injuring herself if she walked. As the outgrowth of this complex the patient could not walk without aid, and it was quite ludicrous to see her work her way down stairs, backward, clinging to the banister, as if she was descending from a high and dangerous situation, and as if her life depended upon her grip. With the surging of this complex into her mind there also developed, as is usual in such cases where fear enters as an element, certain physiological accompaniments, the bodily manifestations of the emotions, tremor, palpitation, vasor-motor disturbances, etc.

Clinically the *periodic recurrences* of such complexes is an obsession. Here I am only considering the conditions of organization and systemization of the complex. From another point of view the recurrence of abnormal complexes represented by these examples may be regarded as an "association psychosis." Sometimes the physiological accompaniments form the greater part of the complex, which is for the most part made up of physiological memories (vasomotor, cardiac, gastric, respiratory, secretory, muscular, etc.), which have few or no conscious correlates; almost pure association neuroses, they then become.

Hay fever, when a neurosis, has been already referred to as an example of such association phenomena. Of course no neurosis is absolutely pure without a psychical element, and *vice versa* for an association psychosis. In the commonly observed complex of self-consciousness in its various forms, among them that of fear of blushing in the presence of strangers, the psychological and the physiological manifestations are largely conjoined. It is needless to cite further examples of this kind.

There are several other sorts of complexes which differ in certain important respects from the closely organized groups of ideas I have been describing. The latter form little compact nuclei of thoughts, the elements of which are so strongly bound together that they create little whirlpools, so to speak, in the main current of consciousness and are capable of more or less independent functioning. They are apt to produce automatisms (obsessions, insistent ideas, etc.) by which the complex as a whole rushes into activity. The complexes to which I am now referring are rather large

systems of associated ideas which are intimately related though not compactly organized in the sense in which I have used that expression. Among these systems may here be mentioned those which are related to certain *subjects* or departments of human experience, or are related in *time*, or to certain dispositions or *moods* of the individual. The first may be called *subject* complexes, the second *chronological* complexes, and the last *mood* complexes.

Subject Complexes: I find myself interested, for instance, in several fields of human knowledge: (*a*) abnormal psychology; (*b*) public franchises; (*c*) yachting; (*d*) local politics; (*e*) business affairs. To each of these I give a large amount of thought, accumulate many data belonging to each, and devote a considerable amount of active work to carrying into effect my ideas in each field. Five large complexes are thus formed, each consisting of facts, opinions, memories, experiences, etc., distinct from those belonging to the others. To each there is an emotional tone which has a more or less distinctive quality; that coming from the intellectual interest of abnormal psychology differing qualitatively from that of the " joy of battle " excited by a public contest with a railroad corporation or gas company, as it does from that of the exhilarating sport of a yacht race, or from the annoying and rather depressing care of business interests; and so on.

These five subject-complexes do not form independent automatisms or isolated systems which may intrude themselves in any conscious field, but are large associations bound together, memories of experiences in a special field of thought. Within that field the ideas of a complex are no more strongly organized than are ideas in general; but it can be recognized that the complex as a whole with its emotional tone is fairly well delimited from the other complexes. In certain individuals, at least, it is difficult to introduce the elemental ideas of one subject-complex into another so long as that other occupies the attention of consciousness. Some individuals, too, find it difficult to swing their minds from one subject to another and back again, without waiting for the first subject to subside. It is said of Napoleon that he had all the subjects of his experiences arranged in drawers of his

mind, and that he could open each drawer at will, take out any subject he wished, and shut it up again as he wished. Ability of this kind involves remarkable control over the mind and is not given to all.

I have frequently made observations, like the following, on myself: I collect the various data belonging to one of the problems discussed in this work. I arrange all in an orderly fashion in my mind, work out the logical relations and the conclusions to which they lead, as well as their relations to other data and problems. The whole is then schematically arranged on paper to await proper elaboration the next morning, when it will be written out on waking, the preliminary mental arrangement having been done at night.' A large complex has been created, the various details of which are luminously clear and the sequence of the ideas vividly conceived, the conclusions definite. There is, further, an emotional tone of mild exaltation which is apt to accompany the accomplishment of an intellectual problem and which produces a feeling of increased energy. The next morning, probably owing to the fatigue following the previous night's work, as I awake and gradually return to full consciousness, another and very different kind of complex almost exclusively fills the mind. All sorts of gloomy thoughts, memories of experiences better forgotten, course through my mind, and a strong feeling of depression dominates the mental panorama. The whole makes a complex which has been experienced over and over again and is recognized as such. The same old ideas, thoughts, and memories repeat themselves almost in stereotyped fashion. The mental complex has completely changed and the exuberant energy of the night before has given place to listless inertia. In all this there is nothing remarkable, merely the morning depression to which most people are at times subject, though this depression makes an interesting study from the point of view of mental dissociation and the reproduction of complexes.

But now I remember that I have a task to perform and before rising take paper and pencil lying ready at my side to write out the theme previously arranged in skeleton. But to my surprise I find that it cannot be recalled. To be sure, I can, by effort of will, recall individual facts, but the facts

have lost their relation and meaning. They remain comparatively isolated in memory, all their correlated ramifications, their associated ideas and relations, which the night before stood out in relief and crowded into the complex, have gone. The emotional tone which bore them into consciousness on the rapid wings of fancy has disappeared, and with it the complex as a whole. It is only by strong effort that I can bring into the focus of attention isolated details. With the fatigue depression a new complex now dominates the mind.

This failure of memory is not that kind of forgetfulness which is due to lack of conservation of new experiences, for the details of the complex were not newly formed last night, but were the gradual growth of prolonged studies of facts and relations with which I had long been familiar. Later in the day, after becoming refreshed by mental exercise, the fatigue and depression disappear, a new energizing emotional tone arises and the sought for complex returns in its entirety. With this change the depression complex in turn disappears, and now it is difficult to recall it, excepting that, as an intellectual fact, I remember that such a complex occupied my mind in the early morning hours. The two complexes as a whole are distinctly dissociated from one another.

Another example could be cited in the plans of a yacht I am building, in anticipation of projected races. So vivid are some of the ideas that with my eyes closed and in the dark I actually visualize the boat in all its details. The next morning this complex has vanished like the other and cannot be recalled except in a scrappy way.

This is only expressing in some what technical language a common experience, as most people, I suppose, have such alternations of complexes. The facts are trite enough; but, because it is common experience, it is well to formulate the facts and so, as far as possible, give precision to our conception of the psychological relations which have a distinct bearing on the principles of dissociated personality and other psychoses, character, and psycho-therapeutics. When, at a later time, we take up for study the subject of dissociated personality we shall find that the dissociation of consciousness sometimes takes its lines of cleavage between complexes of

this kind. And above all, the principle of the formation of complexes is the foundation stone of psycho-therapeutics.

Varieties of this mode of organizing mental processes are the methods of education and suggestion. Both, in principle, are substantially the same, differing only in detail. They depend for their effect on the implantation in the mind of ideational complexes which, by repetition, become organized. Every form of education necessarily involves the artificial formation of such complexes, whether in a religious, ethical, scientific, social, or professional field. By artfully directed suggestion in the narrower sense — for suggestion, broadly considered, is a form of education — complexes may be similarly formed and organized. Ideas of right or wrong, of jealousy or sympathy, of hatred or love, are awakened, all their associated emotions are aroused, and the whole welded into a complex. Under ordinary conditions of everyday mental life, ideas so originated necessarily become mingled with the stream of the personal consciousness, so that only the color of the stream is modified without altering the smoothness of the current. A new tint, only, is given to the mixture. But sometimes the new ideas retain their organization, fail to mix, and persist as well-defined complexes, like vortices in the current. Later, when the ideas pass out of mind and become dormant, these complexes still persist as physiological organizations and remain capable of recall.

Chronological complexes are those which embrace the experiences of certain epochs of our lives regardless of the subject material included in them. In a general way events, as they are successively experienced, become associated so that the experiences of an epoch tend to be conserved *en masse*. The later recollection of one event of an epoch recalls successively the others. This is an axiom of memory. The principle, however, plays an important part in abnormal conditions in that, in certain states in which there is a dissociation of personality, or amnesia, the cleavage of memory may be along chronological lines; that is to say, the amnesia embraces a certain epoch only. The newly integrated per-

sonality goes back to the period last remembered in which he believes, for the moment, he is still living, the memory of the succeeding last epoch being dissociated from the personal consciousness.

Disposition or Mood Complexes: Amongst the loosely organized complexes in many individuals, and possibly in all of us, there are certain dispositions towards views of life which represent natural inclinations, desires, and modes of activity which, for one reason or another, we tend to suppress or are unable to give full play to. Many individuals, for example, are compelled by the exactions of their duties and responsibilities to lead serious lives, to devote themselves to pursuits which demand all their energies and thought and which, therefore, do not permit of indulgence in the lighter enjoyments of life, and yet there may be a natural inclination to partake of the pleasures which innately appeal to all mankind and which many pursue. The longing for these recurs from time to time. The mind dwells on them, the imagination is excited and weaves a fabric of pictures, thoughts, and emotions which thus become associated into a complex. There may be a rebellion and "kicking against the pricks" and thereby a liberation of emotional force that impresses a stronger organization on the whole process. The recurrence of such a complex is one form of what we call a " mood," which has a distinctively emotional tone of its own. The revival of this feeling tone tends to revive the associated ideas and *vice versa*. Such a feeling-idea complex is often spoken of as " a side to one's character," to which a person may from time to time give play. Or the converse of this may hold, and a person who devotes his life to the lighter enjoyments may have aspirations and longings for more serious pursuits, and in this respect the imagination may similarly build up a complex which may express itself in a mood. Thus a person is often said to have " many sides to his character," and exhibits certain alternations of personality which may be regarded as normal prototypes of those which occur as abnormal states.

Undoubtedly in the development of moods with their

respective complexes an alteration in the coenesthesis of the individual may play a part. By coenesthesis is meant the combination of all the organic sensations which stream into the sensorium from the different organs of the body, from the viscera, the muscles, the skin, etc. All these organic sensations without question play a large part in personality, particularly in the formation of feeling tones and, therefore, moods; the feeling of well-being and of vitality undoubtedly depends, at times at least, upon normal coenesthesis, and, conversely, the feeling of depression and lowered vitality upon alterations in the coenesthesis. These organic sensations tend to determine their corresponding mental complexes and thus direct the current of ideas. Ribot would make of coenesthesis a predominant factor in personality. Without laying as much weight as does this writer upon this factor, we can, nevertheless, ascribe to it its just weight as a contributing factor; but the converse is also true that the excitation of particular mental ideas determines the corresponding feeling tone and coenesthesis.

It may be interesting to note in passing that the well-known characteristics of people of a certain temperament, in consequence of which they can pursue their respective vocations only when they are " in the mood for it," can be referred to this principle of complex formations. Literary persons and artists in whom " feeling " is apt to be highly cultivated are conspicuous in this class. The ideas pertaining to the development of their craft form mixed subject and mood complexes which tend to have a strong feeling tone. When some other feeling tone is substituted, having itself a corresponding complex, it is difficult for such persons to revive the subject complex belonging to the piece of work in hand, and necessary for its prosecution. "The ideas will not come," because the whole subject complex which supplies the material with which the imagination is to work has been dissociated and replaced by some other. Certain elements in the complex can be revived piecemeal, as it were, but the complex will not develop in mass with the emotional driving energy which belongs to it. Not having their complexes and feelings under voluntary control it is necessary for such persons to wait until, from an alteration in the coen-

esthesis or for some other reason, an alteration in the feeling has taken place with a revival of the right complex *in mass*.

Most of what has been said about the formation of complexes is a statement of commonplace facts, and I would not repeat it here were it not that, in certain abnormal conditions, disposition, subject and other complexes, though loosely organized, often play an important part. This is not the place to enter into an explanation of dissociated personality, but I may point out, in anticipation of a deeper discussion of the subject, that in such conditions we sometimes find that disposition complexes, for instance, come to the surface and displace or substitute themselves for the other complexes which make up a personality. A complex which is only a mood or a " side of the character " of a normal individual may, in conditions of dissociation, become the main, perhaps sole, complex and chief characteristic of the new personality. In Miss Beauchamp, for instance, the personality known as B I was made up almost entirely of the religious and ethical ideas which formed one side of the original self. In the personality known as Sally we had for the most part the complex which represented the enjoyment of youthful pleasures and sports, the freedom from conventionalities and artificial restraints generally imposed by duties and responsibilities. In B IV the complex represented the ambitions and activities of practical life. In Miss Beauchamp as a whole, normal, without disintegration, it was easy to recognize all three dispositions as " sides of her character," though each was kept ordinarily within proper bounds by the correcting influence of the others. It was only necessary to put her in an environment which encouraged one or the other side, to associate her with people who strongly suggested one or the other of her own characteristics, whether religious, social, pleasure loving, or intellectual, to see the characteristics of B I, Sally or B IV stand out in relief as the predominant personality. Then we had the alternating play of these different sides of her character.

Likewise in Bertha A. In each of the personalities, B and A, similar disposition complexes could be recognized, each corresponding to " a side of the character " of the original personality C. In A was represented the complex

formed by ideas of duty, responsibility, and moral scruples; in B was represented the complex formed by the longing for fun and the amusements which life offered. When the cleavage of personality took place it was between these two complexes, just as it was in Miss Beauchamp between the several complexes above described. This is well brought out in the respective autobiographies of B and Sally in these two cases. In many cases of hysteria in which dissociation of personality can be recognized, the same phenomenon is often manifest. Likewise a careful study will reveal it, I believe, in other cases of multiple personality, although, of course, the dissociation may be along other lines; that is, between other complexes than those of disposition.

COMPLEXES MAY BE FORMED IN HYPNOTIC AND OTHER DISSOCIATED CONDITIONS OF THE PERSONAL CONSCIOUSNESS

We have been speaking thus far of complexes formed in the course of every-day life and which take part in the composition of the normal personality. But it is obvious that a complex may be organized in any condition of personality so long as consciousness, however limited or disturbed, is a part of it. Thus we may find one or more complexes in artificial states like hypnosis and those pathological conditions in which there is a splitting of personality, a disappearance of a large part of the normal mental life, leaving only a limited field of consciousness and perhaps a new synthesis to represent the personal self. Hysterical crises, psycholeptic attacks, dreams, trance, certain types of epilepsy, etc., may be instanced as illustrative examples. So long as any of the elements of consciousness are capable of functioning, so long as any consciousness exists, the elements of this consciousness may be organized into a complex, and with the reproduction of the given pathological state this complex may recur, or, as is often the case, *the re-excitation of the complex may reproduce the state, whether psycholeptic, hysterical, or some other.* Thus it is that this principle of complex-formation, as we shall see, plays a prominent part in certain psychoses. The greater the limitation of consciousness, the fewer the ideas, perceptions, and other conscious elements left, the more

strongly organized and more circumscribed are the elements of the complex. Hence, in such states, if a complex has been formed, the ideas repeat themselves over and over again with the recurrence of the attacks. The subject lives over again as in a dream the original attack, which is a stereotyped revivification of the original experience. This peculiarity of the mental condition in attacks has been described by various writers. The dream of the hystero-epileptic is substantially always the same. In the psycholeptic the same sensations or hallucinations and the same bizarre ideas characterize each attack. M——l, who has frequently been referred to,* in each hysterical attack lived over again the original experience when he was frightened on a lonely road at night and manifested the same physical phenomena which accompanied the fright.

Likewise in hypnosis the memories of past hypnotic experiences may, by suggestion or constant repetition, be welded into a complex. On regaining the normal condition the personal self may, and if the dissociation was sufficiently great frequently does, have complete amnesia for the complexes of the artificial state. But the memory of them is conserved and is reproduced with the return to the given state. The principle involved in what I here only touch upon occupies so important a place in the psychoses that it needs to be thoroughly studied, but as I shall have occasion to return to it I may defer for the present further elaboration.

THE COMPOSITION OF DORMANT COMPLEXES

The composition of dormant complexes is of practical importance. No idea ever becomes a part of our mental experience in an isolated form. Every idea occurs concurrently or in series with a large variety of other experiences which are both psychological and physiological. Along with any single idea at any given moment — as, for example, the

*In a forthcoming work on the Subconscious, see also, Boston Medical and Surgical Journal, June 23, 1904 (Pathology of Hysteria; Sidis, Prince & Linenthal). For illustrative cases compare Prince & Coriat, Jour. Abn. Psychol., Oct.-Nov., 1907. Sidis, Boston Med. and Surg. Jour., March 28, 1907.

recognition of an imminent accident or the thought of a possible line of conduct — there arise numerous associated ideas, memories, and language symbols of ideas, with feelings, whether of fear, or anxiety, or well.being, or joy, etc. There also pour into the mental complex a number of visual, auditory, and other perceptions of the environment; muscular, visceral, and other sensations of the body (coenesthesis), a class of reactions which are purely physiological. Amongst the latter, for instance, may be includ ed increased action of the heart, increased or diminished secretions of the body (saliva, perspiration, etc.), alterations in the respiration, and so on. These physiolcgical reactions again may awaken more or less conscious perceptions of their functioning. The exact mechanism by which these physiological reactions are excited with, or by, conscious mental experiences is only incompletely known, but the fact remains that they do occur and and by repetition develop into physiological memories. All or many of these experiences, psychological and physiological, may take part in the formation of a psycho-physiological complex which, later, is to become dormant and conserved as physiological residua.

Thus neuroses as well as psychoses originate and are conserved. The former are the resultant of physiological memories, as detailed in the preceding chapter. In further illustration I may mention the case of Miss T., who suffers from a peculiar but common psycho-neurosis, the basis of which is abnormal self-consciousness. When in the presence of people — particularly, though not necessarily, strangers — an attack characterized by the following symptoms develops: excessive blushing of the face; feeling of heat throughout the entire body; pain along the spine, and great physical discomfort. This is followed, as the attack goes off, by marked general perspiration, pallor of face, general exhaustion, and dyspeptic disturbance. These physical symptoms are the sequence of and depend upon a certain preceding mental complex which is regularly excited under the above conditions. It is consciousness of self — that she is the object of observation and criticism because of her infirmity of which she is ashamed. This idea naturally brings other distressing thoughts in its train, the whole causing much mental pain

and unhappiness. The psychical and physiological elements of this syndrome have become woven into a complex which repeats itself on each favorable occasion. Sometimes even when alone, if her thoughts dwell upon herself, the syndrome will be awakened. It can easily be imagined that life had become burdensome and restricted.

It is needless to give further examples of such psychoneuroses which occur in every conceivable form. I have given various instances in the case of Miss Beauchamp.* They have been frequently described in medical literature. It is important, however, that the psychological principles underlying them should be understood, particularly as they offer a favorable field for psycho-therapeutics especially productive of results.

THE CONSERVATION OF COMPLEXES

The point that I am leading up to is this: How comes it that ideas are welded into complexes which reappear as organized memories? What is it that binds the mental experience of an emotional railroad accident or an obsession, or of a subject or mood complex, or whatever kind of association it be into a system? The answer must be sought in the neuron system, not in the mind. On the theory of physiological residua it is plain. We have seen in the last chapter that the theory of memory depends upon the inditing of physiological records of our ideas through the impression of residua or "dispositions" in the neurons of the brain; the ideas of the moment pass out of mind, but the records still persist, capable of functioning again and manifesting themselves as conscious memories corresponding to the original conscious complex. We must assume that the cerebral neuron dynamics have become organized into a physiological complex which retains its organization as such. Our conscious experiences, besides leaving residua corresponding to each conscious element, leaves them all linked into systems — an association system or physiological complex. So that when one element in the physiological complex is stimulated the whole organized process is set going, and with this the

*"The Dissociation of a Personality." pp. 22, 65, 262.

conscious complex (memory complex). In the spinal column and ganglia, where physiological complexes are formed and reproduce physiological reactions or memories without consciousness, this principle is accepted as the only one capable of explaining the reaction resulting from education. Indeed functioning of the unconscious neuron systems is unintelligible except on this theory. The spinal column and ganglia are capable of acquiring extremely complicated reactions (memories) known as compound reflexes (e.g. those of perverted visceral, vasomotor, and muscular functions). The mechanism of the brain must be the same, though more complicated, and the organization of cerebral complexes must follow the same laws as those of the lower neuron centers. Our anatomical and physiological nomenclature tacitly assumes this mechanism. "Association tracts," "reflex process," "synergesis," "synapsis," "inhibition," etc., all testify to this assumption.

In passing I may point out that observation shows that emotion is a powerful factor in establishing physiological dispositions (residua and organization). The experience of a railroad accident, for example, accompanied by intense fright, is prone to be left as an indelible impression which may, in certain individuals, be aroused from time to time as a psychosis or obsession. It would seem, using metaphor, that emotions were a force which makes more intense dynamic changes, cuts the records deeper, as a loud voice magnetizes more intensely the wire of a phonograph or cuts the record in the wax cylinder more deeply. The records of our lives, then, are written in unconscious dormant complexes and there conserved so long as the residua retain their dynamic potentialities. It is the unconscious, rather than the conscious, which is the important factor in personality and intelligence. The unconscious is the storehouse of our minds. The secret of our moods, our impulses, our intelligence, our acquisitions, our attitudes, our judgments, our capacities, is to be found in its conserved dispositions.

In the second place the records of our experiences may be retained though we cannot voluntarily recall them. This is shown experimentally by the fact that through special devices (hypnotism, abstraction, automatic writing,

etc.), and in special states (dreams, trances, etc.), memories of experiences long forgotton and beyond the possibility of recall by voluntary effort, may be revived. On the other hand, as every one knows, a memory complex which at one moment cannot be voluntarily recalled and is apparently lost, may at another be so regained when the mental conditions are favorable and proper stimulus is applied.

In the third place it is evident, and this is confirmed by observation, that it matters not in what state the complex was originally experienced, whether in the consciousness of the normal personal self, or in an artificial state like hypnotism, or pathological states like dissociated personality, or hysterical crises, or what not; the physiological residuum remains ready to reproduce the original experience (memory) in whole or in part when the favorable occasion arises. Whether the corresponding memories are to be reproduced or not depends on special conditions. They may remain organized and dormant for years, as integral elements of our personality, long after they have passed out of voluntary recall. Even in functional amnesia for epochs, the entire mental experiences, though they cannot be recalled, are conserved in the unconscious dormant consciousness, ready to be brought back as conscious memories by suitable devices or under favoring conditions. All conscious experiences, in whatever state and however conserved, so long as retained in the unconscious, are part of ourselves and may again play a part in our lives. This is not to say that all physiological residua are indefinitely conserved. On the contrary, probably the greater number undergo dissolution in time and disappear. But any one may be conserved for an indefinite period, as I shall point out in the next chapter.

In the fourth place it is evident that, theoretically, unconscious complexes once formed, may, under favoring conditions of the psycho-physical organism, become revived and play an important part in pathological mental life. Theoretically, if freed from the normal inhibition and the correcting influences of the normal mental mechanism and given an independence and freedom from voluntary control, they might, by functioning, produce abnormal states like fixed ideas, delusions, automatisms, hallucinations, etc. A study

of such abnormal phenomena confirms this theoretical view and finds in this conception of the unconscious an explanation of their mechanism. Even in the bizarre notions and delusions of the insane, where all seems chaos, without law or order, Jung, in one disease at least (dementia precox) finds the resurrection of unconscious complexes formed by the earlier experiences of the patient's life.

Finally, and this is a point of the highest importance for psycho-therapeutics, however intensely organized a complex may be conserved and be retained in consciousness, so long as the individual is in other respects normal (sane), it may be modified by the introduction of new ideas into the complex (education). Thus by a process of substitution and addition our personality may be altered for good or ill.

In the conservation of mental experiences as physiological residua we have a psycho-physiological mechanism which renders intelligible the influence which, according to Freud, " suppressed ideas " exert in shaping and determining the mental processes of every-day life, as well as in pathological conditions. Freud, it will be remembered, insists that, with great frequency, the apparently accidental forgetting of names, and substitution of wrong words, the apparently voluntary selection of numbers, the determination of the details of dreams, etc., are not due to chance, and causeless, but are directed by the automatic influence of suppressed unconscious ("subconscious" ?) memories, and claims by the method of psycho-analysis to be able to reveal these unconscious memories. Without accepting the entire correctness of this theory, there is no doubt that many of our apparently self-determined processes of thought are really the resultant of previous mental experiences which have long passed out of mind. In post-hypnotic phenomena we have evidential examples of this principle. In the theory of the dormant consciousness we have a mechanism quite sufficient to afford a basis for all such phenomena.

THE DORMANT CONSCIOUSNESS LARGELY FORMED BY THE SIFTED EXPERIENCES OF OURSELVES AND OUR PREDECESSORS

As mentioned at the beginning, all mental experiences are not organized into complexes, but, after they have served

their purpose for the moment, are dissipated just as printers' type is dissipated or distributed after it has served its purpose in printing. Whether or not a given experience shall become organized depends on various factors, among which the most effective are repetition, and the intensity of the accompanying emotional tone.

But the elements of such experiences may persist as unconscious physiological residua and be still capable of voluntary or involuntary recall. Such elements probably make up the larger part of our memories and tend to shape the judgments, the beliefs, convictions, and trend of our mental lives. In fact, the total of our complexes, which, regarded as a whole and in view of their reaction to the environment, their behavior under the various conditions of social life, their aptitudes, feeling-tones, "habits," and faculties, we term character and personality, are in large part predetermined by the mental experiences of the past and the vestiges of memory which have been left as residua from these experiences. We are the offspring of our past. The elements of the mental experiences of any given moment become sifted, as it were; the unessentials and useless, the intermediate steps leading to the final and useful, drop out without leaving *conscious* vestiges, while the essential and useful remain as memories capable of recall from the dormant consciousness. Here they remain more or less permanently fixed as single ideas or simple complexes. Whence they came, how they were born, we have long ceased to remember, but we are all plagiarists of the past, of our own and of that of others. We often arrive at conclusions which, we imagine in our ignorance, we have constructed unaided out of our inner consciousness. In one sense this is true, but that inner consciousness has been formed largely out of vestiges furnished by the forgotten experiences derived from others, and we are surprised later to find the source of our innocent plagiarism.

Through education, whether scholastic or social, we inherit the experiences of our predecessors. The conceptions of one age never can represent those of a preceding age. The veriest layman in science to-day could not entertain the conceptions underlying many hypotheses formulated by the wisest of the preceding age, of a Galileo, a Descartes or Pascal.

Lucretius, in the first century B.C., argued with what for the times was great force, that the soul of man was corporeal and that it " must consist of very small seeds and be inwoven through veins and flesh and sinews; inasmuch as, after it has all withdrawn from the whole body, the exterior contour of the limbs preserves itself entire and not a tittle of the weight is lost." Lucretius gave much thought to this problem, but to-day the least informed persons, who have never reflected at all on psychological matters, would reject the hypothesis, and recognize the foolishness of such a conception.* They would call it commonsense which guided them, but commonsense depends upon the fact that in the dormant consciousness lie memories, the reasons for and origin of which we do not remember, that nullify such an hypothesis. These contradictory ideas, sifted out of those belonging to the social education, have become fixed as dormant or organized memories and determine the trend of the personal consciousness. These memory vestiges may work for good or evil, shape our personal consciousness into a useful or useless form, one that adapts or unfits the organism to its environment. In the latter case they drive it into the field of pathological psychology. The effect of this we shall see in studying the behavior of compact complexes which have a similar origin and influence. These latter, having a grosser form, are more obtrusive, more readily recognized within the current of our conscious life, and are more easily studied; for the sifted elements of mental experience, of the kind we have been speaking of, are not, like these latter, organized into definite circumscribed complexes so as to form a coherent nucleus of ideas. A simple observation which any one can make on himself enables us to recognize the extent to which our conscious experiences may be conserved in the unconscious without our being able to voluntarily revive them. If after reading a book or chapter in a book, we put it aside for awhile, we find later, on taking it up, that we are unable to

*Prof. G. S. Fullerton, in the course of an essay, ["Is the Mind in the Body," interestingly refers to this fact and points out that commonsense directs the common man in repudiating ancient doctrines, and that it is "part of his share in the heritage of the race." "The commonsense which guides men is the resultant attitude due to many influences, some of them dating very far back indeed." The Popular Science Monthly, May, 1907.

recall to any appreciable degree the contents of the chapter. It may be practically blank. Now on rereading it we find not only the facts familiar, but almost each sentence. This can only mean that the experiences of the first reading were conserved in the unconscious and are now revived by the stimulus of re-reading. It is evident that the conserved ideas might be revived by other stimuli (associated ideas) without our being aware of their original source owing to a failure of complete organization of the ideas of the book, sentences, authorship, etc., among themselves.

In succeeding chapters the specific influences of the unconscious will be considered in some detail.

(*To be continued*)

ABSTRACTS

PSYCHASTHENIA: ITS SEMEIOLOGY AND NOSOLOGIC STATUS AMONG MENTAL DISORDERS. *By J. W. Courtney, M.D.* The Journal of the American Medical Association, Feb. 29, 1908, Vol. I, pp. 665–673.

IN this comprehensive paper, Dr. J. W. Courtney approaches the problem of psychasthenia from the semeiologic point of view and then proceeds to discuss it psycho-pathologically as far as the available data permit. In studying a case of psychasthenia, the first thing that impresses the clinician is that he is dealing with an idea of peculiar character. It is neither volitional nor practical; it does not represent an intellectual advancement; it is not concrete and does not lead to useful and satisfying achievement; lastly, it cannot be submerged to the level of the subconscious like an ordinary idea. On the contrary it is vague, abstract, insistent, monotonous; it is an incubus, an obsession, which fastens on the mind of its victim and goads it to that particular type of frenzy — characterized by the impulses, mental manias, *folies du doute*, tics, agitations, phobias, deliria of contact, anxiety, and bizarre feelings of strangeness and depersonalization.

Upon close analysis it will be found that obsessions are of five general classes: obsessions of sacrilege, of crime, of disease, of shame of self, and of shame of the body. These obsessions, however, have a common origin, and the various groups are indissolubly linked, one with another. A striking characteristic of all obsessions is that they have no bearing on objects in the outside world; they are always Ego-centric. Another peculiarity of them is that their victims are always impelled to do the very opposite of what they most desire to do at the moment. Furthermore, the conception underlying the impulse is so extreme, loathsome, and foreign to the will of the patient that he recoils from it in horror.

Fundamental to the psychasthenic mentality we discover first compulsory ideation, although in the vast majority of cases there is a lack of all tendency to resultant action; and secondly, compulsory activity, which when present, is manifest in the realms of thought, motion, and emotion. Compulsory activity of thought comprises the mental manias which may be systematized or diffuse. Here are found the manias of oscillation, of interrogation, of hesitation, of

omens of questioning fortune. Here too belong the extremists, in whom, after the mind has oscillated hopelessly for a time between two propositions, there is a tendency to "go to the extreme." If we study carefully these manias of thought we must be impressed with the fact that in the last analysis they are the product of forced mental unrest, of the activity of the mind consciously working under dynamic conditions which are inadequate to enable it to cope with the concrete, the actual, and the practical, but which compel it to flounder about pitiably in the realm of the abstract, the illusive, and the imaginary.

Regarding the compulsory motor activities it may be said that like the enforced mental varieties they are neither in harmony with external circumstances nor with the desire of the patient. They are, however, neither unconscious nor entirely involuntary. These enforced activities may be systematic, represented by the tics, or diffuse as in the crisis of agitation.

Under the phobias of the bodily functions are to be found the phobias of the movement of the limbs, of objects, of places, and of ideas. Among the diffuse emotional agitations are the anxious states which are the result of a perturbation of the individual both mentally and physically.

To any one who has followed the semeiologic manifestations of the morbid conditions just described it must be obvious that their pathology is identical. The starting point in all is a morbid ideation. And as a natural consequence of this we should expect morbid action in its various forms, intellectual, emotional, and motor. This being so it is logical to contend that all these symptoms whether appearing singly or in groups should have one clinical designation; whether psychasthenia is the proper term remains to be demonstrated.

In studying the ancestry, immediate and remote, of the psychasthenic one finds that at least 75 per cent of such patients come from families in which mental alienation in some form or other, alcoholism, tuberculosis, syphilis, and arthritism occupy a prominent pathogenetic rank. Aside from heredity we observe in the upbuilding of the future psychasthenic's personality, certain factors at work which have a most important bearing on the coloring of his obsessions. Among these factors should be mentioned a depressing religious training, perverted notions concerning the body and its functions and erroneous ideas of the laws which control the acts of the individual toward his fellows.

From our knowledge of the clinical manifestations of the

disease we may say that the psychasthenic is an individual who has suffered a partial disintegration of the personality, or change in the ego, which is distinct and peculiar. He is not truly insane, yet he undergoes such a transformation in his manner of thinking, willing, and doing that he cannot keep pace with the movement of the everyday world about him. The feeling of unreality, both in its relation to the personality, and to the outside world is fundamental in psychasthenia and is of paramount importance in establishing the nosologic status of the disease which is, in reality, a *forme fruste* of intellectual *petit mal*, a sort of diluted *Dammerzustand*. If we compare the automatic acts of the psychic epileptic with the tics and criminal impulses of the psychasthenic it must be obvious that the pathogenetic substratum is identical in kind with the sole difference that in psychasthenia the reasoning and restraining ego is not completely submerged while in epilepsy it is. Again in the psychasthenic there are constant oscillations in the psychological tension, which are not the result of the obsessions, but occur unexpectedly and bring about the feeling of unreality and de-personalization. In the epileptic likewise the lowering of the psychologic tension is not always sufficiently sharp and extensive to abolish consciousness completely, and the patient has the same feelings of strangeness and unreality both in the perception of sel fand of the outside world which are common to the psychasthenic; finallymany psychasthenics ultimately develop the major form of epilepsy, from all of which it may be concluded that psychasthenia is a *forme fruste* of intellectual *petit mal*

John E. Donley

REVIEWS

THE PROLONGATION OF LIFE. OPTIMISTIC STUDIES. *By Elie Metchnikoff. Translated by* P. CHALMERS MITCHELL. 8°. pp. 334. Net $2.50. New York. 1908. G. P. Putnam's Sons.

PROFESSOR METCHNIKOFF early made a reputation for himself as a scientific zoölogist, and his papers upon the morphology of various invertebrate animals are well known to specialists. During his later life he has followed quite a different tendency in his researches, having been connected with the Pasteur Institute in Paris, of which he is at present the subdirector. He is an accomplished and agreeable writer, and has succeeded in this new volume, as in his earlier similar one upon the "Nature of Man," in presenting with considerable literary art the various theories and hypotheses which he has developed. Every thoughtful man finds toward the close of his career that almost without planning, his mind has produced for him a certain set of views as to the conditions of life and the objects of existence. He almost inevitably assumes, as it were, an attitude toward life and its standard problems, which have ever occupied the sages of all ages. It is not necessary that such a philosophy of life should be profoundly reasoned out, or that it should be based upon profound study, in order to be very real and important to its holder,— it is such a system of views that Metchnikoff presents to us. The volume, although entitled "The Prolongation of Life," is really a collection of essays, more or less detached in substance from one another, and only in part dealing with the problem which gives its title to the work.

In his treatment of old age, Metchnikoff appears as a pleasantly optimistic naturalist, and it is this attitude of optimism which imparts to the volume such unity as one may find in it. His method of dealing with old age is characteristic. He treats it as a special, isolated condition. He does not in the least endeavor to determine the essential foundation of senility nor to reach conclusions by the thorough comparative study of the phenomena in various animals and plants. Comparisons he does indeed make, but they are so loosely thought that he has forged no chain of evidence, but only produced an agreeable discourse.

He lays great emphasis upon the large intestine and the fundamental changes which occur in it; and thinks that the ills of old age in man are largely attributable to the poisoning of the body which

proceeds from the large intestine. While it may very well be true that such a cause adds to the enfeeblement of age, it is a very shallow view which presents this as a fundamental fact, affording sufficient explanation of senility. What — one naturally asks — causes senility in the thousands of species of animals which have no large intestine? We may very well admit that as a hygienic measure the taking of lactic acid is sensible, especially for old persons, and yet think it preposterous to regard such medicamentation as a cure for senility. Those who wish to test the lactic acid treatment will perhaps be wise to follow the rules for the production of sour milk which the author gives on pages 180-181.

Metchnikoff's book is certainly well worth reading by those interested in the subjects he discusses, but the reader should not overlook the fact that he deals only with secondary and relatively unimportant details, and never in any part of the book shows ability to measure the full breadth of the biological problems upon which he touches, and never even discusses the essential fundamental phenomena of old age. As his view is narrow, so are his conclusions; and yet the book is enriched with a great number of curious and interesting facts concerning animals and plants in relation to age, longevity, and death, all of which are presented with charming skill.

The latter parts of the book deal with character inherited from apes; somnambulism; pessimism and its relation to health and age; even with Goethe and Faust and morality! and at the end is a chapter on orthobiosis, which he highly recommends. All these chapters are brief and written with a light touch, but in going through the volume I find that the deepest impression it has left upon me is that of the attractive character of the author. One feels that here is a man whom old age finds full of hope as a habit of mind, and very sanguine as to the happy future of mankind, which to him seems assured by the progress of science.

On the mechanical side there is the comment to be made that the illustrations are abominably printed. One is astonished that any reputable publisher would allow such conclusive evidence of lack of typographical skill to appear with his imprint. Finally, a word should be said in acknowledgement of the very admirable quality of the English translation of Mr. Mitchell. One could not ask for anything better.

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MENTAL PATHOLOGY IN ITS RELATION TO NORMAL PSYCHOLOGY. *By Gustav Störring*, Dr. Phil. et Med. *Translated by* THOMAS LOVEDAY, M.A., ate professor of Philosophy in the South African College, Cape Town; Pp. 298. London, Sonnesnchein & Co.

THE original text of this work was published quite a number of years ago (1900) so that an extended analysis of the author's views would hardly be in place at this date. The book contains a series of twenty-five lectures, delivered at the University of Leipzig with the praiseworthy intention of marshaling the observations of writers on abnormal aspects of psychology, in the interests of a better understanding of normal psychology. It is surely the case that the most important contributions which have been made to normal psychology, of late years, have come from doctors of medicine, and this fact is now widely realized.

Professor Störring has sought to study these abnormal cases,— these attempts of the diseased or the imperfect brain and mind to assert themselves under difficulties,— and to note how the very imperfections of the results bring to light parts of the subtle machinery that might otherwise have passed unnoticed.

It is an excellent feature of the book that numerous cases are cited in illustration of the views advanced, but it is unfortunate that only a small proportion of them are of the writer's own observing. This detracts materially from their value. Nevertheless, many of the arguments demand attention and there are certain threads of thought running through the work which are of distinct importance.

The translator had a difficult task before him, for German psychologists usually make but few concessions to their reader's sense of rhythm or literary taste and it is dry work to interpret them. But all the more for this it might be wished that Professor Loveday had carried out still further his avowed purpose of rendering the author's meaning in good and fluent English, without striving overmuch to reproduce the form and terms of the original text.

The attempt to fulfil this laudable intention is clearly seen, and yet there are far too many passages which the reader must work hard to understand, and with the sense that he is forced to invent a glossary for a language that is not quite English nor quite German. The use of the term "magnitudes" for "*Grossen*" is a case in point. For surely "magnitudes" ordinarily signifies mere size, while "*Grossen*" has a dynamic connotation, akin to that of "power" or "influences."

The first chapter of the book is devoted to a justification of the combined use of psychical analysis and anatomical and physiological observation as a means of study. This position is so obviously sound that it ought not to be necessary to assert it. Yet, in fact, many medical observers are still case-hardened naturalists and admit no evidence that cannot be measured or recorded on a drum. In the opinion of the reviewer, even philosophy and metaphysics ought to be admitted to the charmed circle of the sciences contributive to psychology and biology, and it is one of the merits of the able investigator Bergson that he so uses them.

In the second chapter the plan of the lectures is defined as an attempt to study the pathology and through that the normal action, first, of the intellectual functions, then of the "affective processes," and finally of the will.

But the author wisely recognizes that it is impossible to separate these three modes of action of the mind, and that in fact the influence of the desire, the feelings, the emotions is partly determinant of the movement of the intellect, and for this reason he devotes some pages to the feelings and to an analysis of the James-Lange theory of the emotions. This theory he justly characterizes as of value, but too exclusive, as an attempt to make a part appear the whole.

There are feelings and emotions that refuse to be relegated to a secondary place or made subservient to muscular movement, and the attempt to so constrict them is like the attempt to explain all the impulses which lead to action as governed ultimately by the search for pleasure or satisfaction of some sort.

Next comes a prolonged and interesting study of hallucinations, pseudo-hallucinations and illusions, and their relation to the normal processes of perception, assimilation, and intellectual reaction. The author's chief contribution to this subject consists in emphasizing the influence of the mental attitude of strained volitional attention as a frequent though not essential factor. The fact is then commented on that in pathological conditions the bond that commonly unites sensations and ideas is sometimes severed, and the question is raised whether this implies that there are separate centers for these processes, as is sometimes thought, or only differences in perfection of functional activity. The latter is doubtless the correct view, as he, too, thinks, and some of the associations in hysteria could be cited in its support.

Storring's discussion of aphasia is pains taking and elaborate,

but the study of that subject has entered on a new phase since this book was published.

Hysterical amnesias, dissociation, disintegration, mental fog as associated with epilepsy and with hysteria, and kindred topics, are interestingly discussed. The author disbelieves absolutely in the doctrine of "unconscious thought," and devotes some space to substantiating his belief in a "dim consciousness," as opposed both to the theory of unconscious mental action of relatively high grade and to that of physiological substitutes for mental action. He denies also totally the possibility that a "secondary ego," an "ego of the lower consciousness" can coexist with the primary ego. In other words he believes that without "awareness" there is no conscious life but that this awareness may be of a dim and hazy sort.

The readers of this journal will recall that this subject was threshed out last year in the symposium on the subconscious, and most of them will perhaps have been convinced that Störring's position is untenable.

The well-organized secondary ego or co-consciousness is doubtless an abnormal manifestation, but its germ must exist within the normal life. In this discussion the need of a first-hand knowledge of the facts is indispensable.

In his treatment of the disorders of self-consciousness in relation to their dependence on defects of memory the important point is made that the sense of *capacity* of memory should be distinguished from the sense of the actual contents of memory, as determining the feeling of changing personality.

Also, "the apprehension of the present mental state as the last member of an uninterrupted series of successive mental states," as one of the essential conditions of the normal self-consciousness is doubtless an important point.

In the study of delusions and imperative ideas the importance of the coercive action of the emotions is again insisted on, and here the writer's views are in accord with those expressed by other observers, as by Schiller and by Jung, both of whom emphasize the fact that emotional influences play a vast part in controlling the current of our thoughts. Emotional interest and the coercive influence of represented facts lead us onward, and "attention," increasing at times to "strained attention," gives these facts valid reality and unites them into a single whole.

This scheme is an improvement over that of a mechanical associationism.

Taking it altogether the book is a conscientious piece of analytical study, and even if one disagrees at many points and finds the reading dry he will also find his labor repaid by the presentation of many points for thought.

JAMES J. PUTNAM

BOOKS RECEIVED

Why Worry, by GEORGE LINCOLN WALTON, M.D., Consulting Neurologist to the Massachusetts General Hospital. Net $1.00. pp. 275. Philadelphia and London. J. B. Lippincott Company, 1908.

The Prolongation of Life, Optimistic Studies, by ELIE METCHNIKOFF, Subdirector of the Pasteur Institute, Paris. English Translation edited by P. Chalmers Mitchell, M.A., D. Sc. Oxon., Hon. Lld., F. R. S.; Secretary of the Zoölogical Society of London; Corresponding Member of the Academy of the Natural Sciences of Philadelphia. Net $2.50, pp. 334. G. P. Putnam's Sons, New York and London. The Knickerbocker Press, 1908.

Neurological and Mental Diagnosis, A Manual of Methods, by L. PIERCE CLARK, M.D., Senior Attending Physician, Hospital for Nervous Diseases, New York., and A. ROSS DIEFENDORF, M.D., Lecturer in Psychiatry in Yale University, etc. The Macmillan Co., 1908. pp. ix, 188. Net, $1.25.

The Principles of Anthropology and Sociology in their Relations to Criminal Procedure, by MAURICE PARMELEE, M.A. New York, The Macmillan Company, 1908. pp. viii. 410. $1.25 Net.

Lectures on the Elementary Psychology of Feeling and Attention, by EDWARD BRADFORD TITCHENER. New York. The Macmillan Co., 1908. pp. viii. 404. $1.40 Net.

Index of 1180 Post Mortems of the Insane. State Hospital for the Insane, Norristown, Pa., by H. J. SOMMER, JR., M.D., Pathologist, Formerly Assistant Physician of the Institution; with an introduction by Allen J. Smith, A.M., M.D., Professor of Pathology, University of Pennsylvania; Consulting Pathologist of the Hospital etc., etc. Published and distributed by authority of the Board of Trustees. 1908.

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